



# **STIC Search Report**

## **Biotech-Chem Library**

STIC Database Tracking Number: 173943

**TO: Jegatheesan Seharaseyon**  
**Location: rem/4C61/4C70**  
**Art Unit: 1647**  
**Thursday, December 15, 2005**

**Case Serial Number: 10/691653**

**From: Alex Waclawiw**  
**Location: Biotech-Chem Library**  
**Rem 1A71**  
**Phone: 272-2534**

**Alexandra.waclawiw@uspto.gov**

### **Search Notes**

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GenCore version 5.1.6  
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# OM protein - protein search, using sw model

Run on: December 15, 2005, 13:08:08 / Search time 190 Seconds  
(without alignments)  
437.066 Million cell updates/sec

Title: US-10-691-653-2

Perfect score: 1 MAUSFSLMVLVLSYKSLC.....EIMRSLSFTNLOKILRRKD 189

Sequence: 1 MAUSFSLMVLVLSYKSLC.....EIMRSLSFTNLOKILRRKD 189

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A\_Geneseq\_21:\*

1: geneseqp1980s:\*

2: geneseqp1980s:\*

3: geneseqp2000s:\*

4: geneseqp2001s:\*

5: geneseqp2002s:\*

6: geneseqp2003as:\*

7: geneseqp2003bs:\*

8: geneseqp2004s:\*

9: geneseqp2005s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	961	100.0	189	5	AAG78567 Human int
2	961	100.0	189	6	AAE14830 Human wil
3	961	100.0	189	7	ADN13719 Human int
4	961	100.0	189	8	ADN10812 Human int
5	961	100.0	189	8	ADN16322 Human int
6	961	100.0	189	9	ADM02283 Human int
7	953	99.2	189	6	AAE14832 Human int
8	941	97.9	189	1	AAE14832 Human int
9	929	96.7	189	5	ABG68061 Human int
10	929	96.7	189	9	ADY67643 Human int
11	921	95.8	189	3	AAE12967 Human int
12	921	95.8	189	5	ABG68062 Human int
13	921	95.8	189	9	ADY67645 Human int
14	919	95.6	189	1	AAE14832 Human int
15	919	95.6	189	1	AAE14832 Human int
16	919	95.6	189	2	AAE14832 Human int
17	919	95.6	189	5	ABG68065 Human int
18	919	95.6	189	8	ADN10803 Human int
19	919	95.6	189	8	ADN16313 Human int
20	919	95.6	189	9	ADM02274 Human int
21	919	95.6	189	9	ADY67651 Human int
22	917	95.4	189	1	AAE14832 Human int
23	917	95.4	189	1	AAE14832 Human int
24	917	95.4	189	5	ABG68067 Human int

25	917	95.4	189	5	ABB07438 Interfero
26	917	95.4	189	5	AAG78566 Human int
27	917	95.4	189	5	AAG78566 Human int
28	917	95.4	189	8	ADN10808 Human int
29	917	95.4	189	8	ADN16318 Human int
30	917	95.4	189	9	ADM02279 Human int
31	915	95.2	189	5	ABG68066 Human int
32	915	95.2	189	9	ADY67653 Human int
33	913	95.0	189	5	ABG68068 Human int
34	913	95.0	189	9	ADY67657 Human int
35	912	94.9	189	2	AAE14832 Human int
36	911	94.8	189	4	AAE14832 Human int
37	911	94.8	189	7	ADY67657 Human int
38	911	94.8	189	8	ADY67657 Human int
39	910	94.7	189	9	ADY67655 Human int
40	910	94.7	189	9	ADY67655 Human int
41	909	94.6	189	2	AAE14832 Human int
42	909	94.6	189	2	AAE14832 Human int
43	909	94.6	189	3	AAE14832 Human int
44	909	94.6	189	3	AAE14832 Human int
45	909	94.6	189	4	AAE14832 Human int

## ALIGNMENTS

### RESULT 1

AAG78567 standard; protein; 189 AA.

AAG78567;

16-MAY-2002 (first entry)

Human interferon amino acid sequence INAG.

Interferon; Zinf2; immunosuppressive; cytostatic; antiarteriosclerotic; antiviral; nootropic; neuroprotective; antidepressant; neuroleptic; autoimmune disease; cancer; multiple sclerosis; arteriosclerosis; retinopathy; viral infection; tumour; lymphoproliferative disorder; B-cell lymphoma; chronic lymphatic; leukemia; acute lymphatic leukemia; myocardiitis; central nervous system disorder; anxiety; depression; schizophrenia; Parkinson's disease; Huntington's disease; Alzheimer's disease; human.

Homo sapiens.

MO200179289-A2.

25-OCT-2001.

13-APR-2001; 2001MO-US012191.

14-APR-2000; 2000US-0198889P.

(ZYMO) ZYMOGENETICS INC.

Thayer EC, Holloway JL;

WPI; 2002-061973/08.

New human interferon Zinf2, useful for treating e.g. autoimmune diseases, cancers, multiple sclerosis, arteriosclerosis, retinopathy, viral infections, lymphoproliferative diseases, or disorders of the central nervous system.

Disclosure; Fig 1; 100pp; English.

The invention relates to a novel interferon designated Zinf2. The invention provides Zinf2 polypeptides and fusion proteins as well as nucleic acid molecules encoding such polypeptides. The activity of proteins of the invention may be described as immunosuppressive, cytostatic, antiarteriosclerotic, antiviral, nootropic, neuroprotective,

CC antidepressant and neuroleptic. The zinf2 polypeptide is useful for  
 CC treating autoimmune diseases, cancers, multiple sclerosis,  
 CC arteriosclerosis, retinopathy, viral infections, tumours,  
 CC lymphoproliferative disorders (e.g. B-cell lymphoma, chronic lymphatic  
 CC leukemia or acute lymphatic leukemia), myocarditis, or disorders of the  
 CC central nervous system including anxiety, depression, schizophrenia,  
 CC Parkinson's disease, Huntington's disease, Alzheimer's disease. zinf2 can  
 CC also be used to promote and protect growth of the fetus, and promote in  
 CC vitro fertilization. Nucleic acids can be used to detect expression of a  
 CC zinf2 gene in a biological sample or to determine whether a subject's  
 CC chromosomes contain a mutation in the zinf2 gene. zinf2 probes and  
 CC primers can be used to detect and to localise zinf2 gene expression in  
 CC tissue samples. Anti-zinf2 antibodies can be used to detect zinf2  
 CC protein. The current sequence represents human interferon amino acid  
 CC sequence INAG  
 CC  
 XX SQ Sequence 189 AA;  
 CC  
 CC Query Match 100.0%; Score 961; DB 5; Length 189;  
 CC Best Local Similarity 100.0%; Pred. No. 9,3e-84;  
 CC Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 CC  
 CC QY 1 MALSFSLMAVLVLSYKSGICGCDLPQTHSLGNRRALLLAQMGRI SPFSCLDKDRHDFG 60  
 CC DB 1 MALSFSLMAVLVLSYKSGICGCDLPQTHSLGNRRALLLAQMGRI SPFSCLDKDRHDFG 60  
 CC QY 61 LPQEPFDGNOFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSILLEKSTELYQQLNNLE 120  
 CC DB 61 LPQEPFDGNOFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSILLEKSTELYQQLNNLE 120  
 CC QY 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWVRAEIMRSLSPSTN 180  
 CC DB 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWVRAEIMRSLSPSTN 180  
 CC QY 181 LQKILRRKD 189  
 CC DB 181 LQKILRRKD 189  
 CC  
 CC RESULT 2  
 CC ID AAE14830 standard; protein, 189 AA.  
 CC  
 CC AC AAE14830;  
 CC  
 CC DT 24-MAR-2003 (first entry)  
 CC  
 CC XX Human wild-type interferon (IFN) alpha-17 precursor protein.  
 CC  
 CC KW Human; interferon alpha-17; IFNalpha-17; single nucleotide polymorphism;  
 CC SNP; cancer; tumour; chronic myeloid leukaemia; infectious disease;  
 CC viral infection; chronic hepatitis; acquired immune deficiency syndrome;  
 CC AIDS; immune disorder; autoimmune disorder; allergy; obesity;  
 CC rheumatoid arthritis; cardiovascular disease; metabolic disease;  
 CC central nervous system disorder; CNS disorder; Alzheimer's disease;  
 CC Parkinson's disease; chemotherapy treatment related disorder; wound;  
 CC anaemia; osteoporosis.  
 CC  
 CC XX Homo sapiens.  
 CC  
 CC OS  
 CC  
 CC FH Key Location/Qualifiers  
 CC FT Peptide 1..23  
 CC FT /label= Signal\_peptide  
 CC FT Protein 24..189  
 CC FT /label= Mature\_IFNalpha-17  
 CC  
 CC PN MO200286156-A2.  
 CC  
 CC XX 31-OCT-2002.  
 CC  
 CC XX 23-APR-2002; 2002MO-EP005229.  
 CC  
 CC XX 24-APR-2001; 2001FR-00005516.  
 CC  
 CC PR

XX (GENO-) GENODYSSE.  
 PA  
 XX Escary J;  
 XX  
 XX WPI; 2003-093152/08.  
 DR N-PSDB; AAD36837.  
 CC  
 CC Novel isolated polynucleotide useful for identifying or amplifying  
 CC polynucleotide, for analyzing biological characteristics of subject, and  
 CC for preventing or treating cancer, metabolic and cardiovascular diseases.  
 CC  
 CC PS Claim 14; Page 63; 64pp; English.  
 CC  
 CC The invention relates to polynucleotide and polypeptide variants derived  
 CC from human interferon (IFN) alpha-17 gene which comprises at least one  
 CC single nucleotide polymorphism (SNP) selected from G771C and 8081ins(A)  
 CC (insertion of base A at position 808). The IFNalpha-17 polynucleotide and  
 CC polypeptide variants resulting due to SNP in the gene, or mimetic  
 CC compounds having similar activity as the variants are used for preparing  
 CC therapeutic agents for preventing or treating diseases such as cancers  
 CC and tumours (e.g. chronic myeloid leukaemia, metastizing renal carcinoma),  
 CC infectious diseases (e.g. viral infections including chronic hepatitis B  
 CC and C, human immunodeficiency virus (HIV)/acquired immune deficiency  
 CC syndrome (AIDS), infectious pneumonias, and venereal diseases such as  
 CC genital warts), immunologically or autoimmunologically related diseases  
 CC (e.g. rejection of tissue or organ grafts, allergies, asthma, psoriasis,  
 CC rheumatoid arthritis, multiple sclerosis, Crohn's disease and ulcerative  
 CC colitis), cardiovascular diseases, metabolic diseases (e.g. obesity),  
 CC central nervous system (CNS) disorders (e.g. Alzheimer's disease,  
 CC Parkinson's disease, schizophrenia, depression) and disorders connected  
 CC with chemotherapy treatments. The therapeutic agents are also useful for  
 CC preventing or treating wounds, anaemia in dialysed patient, and  
 CC osteoporosis in an individual. The present sequence is human wild-type  
 CC interferon (IFN) alpha-17 protein  
 CC  
 CC SQ Sequence 189 AA;  
 CC  
 CC Query Match 100.0%; Score 961; DB 6; Length 189;  
 CC Best Local Similarity 100.0%; Pred. No. 9,3e-84;  
 CC Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 CC  
 CC QY 1 MALSFSLMAVLVLSYKSGICGCDLPQTHSLGNRRALLLAQMGRI SPFSCLDKDRHDFG 60  
 CC DB 1 MALSFSLMAVLVLSYKSGICGCDLPQTHSLGNRRALLLAQMGRI SPFSCLDKDRHDFG 60  
 CC QY 61 LPQEPFDGNOFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSILLEKSTELYQQLNNLE 120  
 CC DB 61 LPQEPFDGNOFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSILLEKSTELYQQLNNLE 120  
 CC QY 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWVRAEIMRSLSPSTN 180  
 CC DB 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWVRAEIMRSLSPSTN 180  
 CC QY 181 LQKILRRKD 189  
 CC DB 181 LQKILRRKD 189  
 CC  
 CC RESULT 3  
 CC ID ADM13719 standard; protein, 189 AA.  
 CC  
 CC AC ADM13719;  
 CC  
 CC DT 20-MAY-2004 (first entry)  
 CC  
 CC XX Human interferon-alpha type 1 protein.  
 CC  
 CC KW Interferon; IFN; Alzheimer's disease; Down syndrome; infant encephalitis;  
 CC autoimmune disease; HIV; AIDS-associated dementia; lupus erythematosus;  
 CC ulcerative colitis; Hashimoto's disease; amyotrophic lateral sclerosis;  
 CC Goodpasture's syndrome; therapy; acquired immunodeficiency syndrome;  
 CC  
 CC KW

KM AIDS; human.  
XX Homo sapiens.  
OS  
XX US2003138404-A1.  
XX  
XX 24-JUL-2003.  
XX  
XX 31-OCT-2002; 2002US-00284740.  
XX  
XX 14-JUL-1995; 95US-00502519.  
XX 28-APR-1998; 98US-00067398.  
XX 30-APR-2001; 2001US-00845260.  
XX  
XX (MEIO-) MEIOGEN BIOTECHNOLOGY CORP.  
XX  
XX Maroun LE;  
XX  
XX WPI; 2003-829690/77.  
XX N-PSDB; ADM13720.  
XX GENE BANK; M11026.  
XX  
XX Composition for preventing or decreasing pathological effects of disease  
XX that are associated with increased level of or heightened responsiveness  
XX to interferon, comprises at least two isolated interferon binding  
XX proteins.  
XX  
XX Disclosure; Fig 7A; 38pp; English.  
XX  
XX The present invention provides composition for preventing or decreasing  
XX pathological effects of a disease that are associated with an increased  
XX level of or a heightened responsiveness to interferon (IFN) where the  
XX composition inhibits the activity of one or more IFN. The invention is  
XX useful for treating diseases such as Alzheimer's disease, Down syndrome,  
XX infant encephalitis, autoimmune diseases such as lupus erythematosus,  
XX ulcerative colitis, Hashimoto's disease, amyotrophic lateral sclerosis  
XX and Goodpasture's syndrome and HIV where the administration of the  
XX antagonist prevents or ameliorates AIDS (acquired immunodeficiency  
XX syndrome)-associated dementia. The present sequence is human interferon-  
XX alpha type 1 protein.  
XX  
XX Sequence 189 AA;  
XX  
XX Query Match 100.0%; Score 961; DB 7; Length 189;  
XX Best Local Similarity 100.0%; Pred. No. 9.3e-84;  
XX Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 MALSFSLLMAVVLVSYKISCSLGGDLPTQTHSLGNRRALILLAQWGRISPFSCLDKRDHFG 60  
DB 1 MALSFSLLMAVVLVSYKISCSLGGDLPTQTHSLGNRRALILLAQWGRISPFSCLDKRDHFG 60  
QY 61 LPOEFPDGNQFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVYQQLNNLE 120  
DB 61 LPOEFPDGNQFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVYQQLNNLE 120  
QY 121 ACVQEVGMETPLMNEDSLAVRKYFORITLVTLEKYSPCAEVVRAEIMRSLSTSTN 180  
DB 121 ACVQEVGMETPLMNEDSLAVRKYFORITLVTLEKYSPCAEVVRAEIMRSLSTSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189  
XX  
XX RESULT 4  
XX ID ADN10812 standard; protein; 189 AA.  
XX  
XX AC ADN10812;  
XX  
XX 01-JUL-2004 (first entry)  
XX  
XX Human interferon-alpha 17.  
XX  
XX

XX  
XX Human; interferon-alpha 17; protein engineering; virucide;  
XX immunosuppressive; cytostatic; antiinflammatory.  
XX  
XX Homo sapiens.  
XX  
XX WO2004031352-A2.  
XX  
XX 15-APR-2004.  
XX  
XX 30-SEP-2003; 2003WO-US030802.  
XX  
XX 01-OCT-2002; 2002US-0415541P.  
XX 10-JUN-2003; 2003US-0477246P.  
XX 24-JUL-2003; 2003US-0489725P.  
XX  
XX (XENC-) XENCOR.  
XX  
XX Aginaldo AM, Beyna AJ, Desjarlais JR, Marshall SA, Muchhal U;  
XX Villegas MFA, Zhukovsky E, Cho HS;  
XX  
XX WPI; 2004-330165/30.  
XX GENE BANK; 10880985.  
XX  
XX New variant type I interferon protein exhibiting improved solubility  
XX relative to a wild type interferon protein, useful for treating  
XX autoimmune diseases, viral infections, inflammatory diseases or cancer.  
XX  
XX Claim 1; SEQ ID NO 13; 75pp; English.  
XX  
XX The present sequence is that of human interferon-alpha 17. The invention  
XX relates to interferon variants with improved properties, such as  
XX increased solubility, increased specific activity and decreased  
XX immunogenicity. Various strategies may be used to design such variants,  
XX including substituting solvent-exposed hydrophobic residues with polar  
XX residues, modifying residues that affect the isoelectric point of the  
XX protein, and reducing the occurrence of unwanted protein-protein  
XX interactions by modifying residues located at a dimer interface. Variant  
XX type I interferon proteins ADN10818-ADN10829 that exhibit improved  
XX solubility relative to wild-type interferons ADN10800-ADN10817 are  
XX claimed. The variants maintain the immunomodulatory, antiviral and/or  
XX antineoplastic activities of the native protein. They differ from the  
XX native interferon by at least one substitution of a solvent-exposed  
XX hydrophobic residue. The variants can be obtained by recombinant  
XX expression in host cells. They are useful for treating autoimmune  
XX diseases, viral infections, inflammatory diseases or cancer. Wild-type  
XX interferons, including the present sequence, are used in a claimed method  
XX of inhibiting interferon dimer formation.  
XX  
XX Sequence 189 AA;  
XX  
XX Query Match 100.0%; Score 961; DB 8; Length 189;  
XX Best Local Similarity 100.0%; Pred. No. 9.3e-84;  
XX Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 MALSFSLLMAVVLVSYKISCSLGGDLPTQTHSLGNRRALILLAQWGRISPFSCLDKRDHFG 60  
DB 1 MALSFSLLMAVVLVSYKISCSLGGDLPTQTHSLGNRRALILLAQWGRISPFSCLDKRDHFG 60  
QY 61 LPOEFPDGNQFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVYQQLNNLE 120  
DB 61 LPOEFPDGNQFOKTOAISVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVYQQLNNLE 120  
QY 121 ACVQEVGMETPLMNEDSLAVRKYFORITLVTLEKYSPCAEVVRAEIMRSLSTSTN 180  
DB 121 ACVQEVGMETPLMNEDSLAVRKYFORITLVTLEKYSPCAEVVRAEIMRSLSTSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189  
XX  
XX RESULT 5  
XX

ADSL6322  
ID ADSL6322 standard; protein; 189 AA.  
XX  
AC ADSL6322;  
XX  
DT 02-DEC-2004 (first entry)  
XX  
DE Human interferon (IFN) alpha 17 protein.  
XX  
KW Interferon; IFN; antiviral; antineoplastic; immunomodulator;  
KW IFN related disorder; autoimmune disease; multiple sclerosis;  
KW diabetes mellitus; lupus erythematosus; Crohn's disease; asthma; allergy;  
KW psoriasis; viral infection; hepatitis C; hepatitis B; viral encephalitis;  
KW cell proliferation disease; cancer; osteosarcoma; basal cell carcinoma;  
KW multiple myeloma; chronic lymphocytic leukemia; Kaposi's sarcoma;  
KW renal-cell carcinoma; ovarian cancer; hairy-cell leukemia;  
KW Hodgkin's disease; gene therapy; human; IFN alpha 17.  
XX  
OS Homo sapiens.  
XX  
PN US2004175359-A1.  
XX  
PD 09-SEP-2004.  
XX  
PF 30-SEP-2003; 2003US-00677093.  
XX  
PR 12-NOV-2002; 2002US-0425851P.  
XX  
PA (DESF/) DESJARLAIS J R.  
PA (MARS/) MARSHALL S A.  
PA (MOY/) MO Y.  
PA (THOM/) THOMASON A R.  
PI Desjarlais JR, Marshall SA, Mo Y, Thomason AR;  
XX  
XX WPI; 2004-642104/62.  
DR GENBANK; 10880985.  
XX  
PT Novel type 1 interferon (IFN) having antiviral, antineoplastic or  
PT immunomodulatory activity same as wild-type IFN, and being circularly  
PT permuted or cyclized to provide modulated characteristics, useful for  
PT treating IFN related diseases.  
XX  
PS Disclosure; SEQ ID NO 13; 48pp; English.  
XX  
XX The present invention relates to a type 1 interferon (IFN) comprising  
CC antiviral, antineoplastic and immunomodulatory activity similar to a  
CC naturally occurring IFN and has been circularly permuted or cyclised and  
CC has at least one modulated characteristic as compared to the naturally  
CC occurring IFN. The invention is useful for treating IFN related disorder  
CC which includes autoimmune diseases such as multiple sclerosis, diabetes  
CC mellitus, lupus erythematosus, Crohn's disease, asthma, allergies and  
CC encephalitis, viral infections such as hepatitis C, hepatitis B and viral  
CC osteosarcoma, basal cell carcinoma, multiple myeloma, chronic lymphocytic  
CC leukaemia, Kaposi's sarcoma, renal-cell carcinoma, ovarian cancer, hairy-  
CC cell leukemia and Hodgkin's disease. The invention is also useful in  
CC gene therapy. The present sequence is human interferon (IFN) protein.  
XX  
SQ Sequence 189 AA;  
Query Match 100.0%; Score 961; DB 8; Length 189;  
Best Local Similarity 100.0%; Pred. No. 9.3e-84; Indels 0; Gaps 0;  
Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 121 ACVIOEVMETPLMNEDSLAAVRKYFORITLVTEKKYSPCAMEVVRAEIMRSLSFSTN 180  
DB 121 ACVIOEVMETPLMNEDSLAAVRKYFORITLVTEKKYSPCAMEVVRAEIMRSLSFSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189  
RESULT 6  
ADW02283  
ID ADW02283 standard; protein; 189 AA.  
XX  
AC ADW02283;  
DT 07-APR-2005 (first entry)  
XX  
DE Human interferon alpha 17.  
XX  
KW Interferon alpha; interferon; IFN-alpha; neuroprotective;  
KW antiinflammatory; hepatotropic; virucide; cytostatic; gene therapy;  
KW multiple sclerosis; viral hepatitis; cancer.  
XX  
OS Homo sapiens.  
XX  
PN WO2005003157-A2.  
XX  
PD 13-JAN-2005.  
XX  
PF 30-MAR-2004; 2004WO-US009824.  
XX  
PR 10-JUN-2003; 2003US-0477246P.  
PR 24-JUN-2003; 2003US-0469725P.  
PR 30-SEP-2003; 2003US-00676705.  
PR 30-SEP-2003; 2003WO-US030802.  
PA (XENC-) XENCOR.  
PI Aguinado AM, Beyna AJ, Cho HS, Desjarlais JR, Marshall SA;  
PI Muchhal U, Villegas MFA, Zhukovsky E, Quesenberry MS;  
XX  
XX WPI; 2005-091765/10.  
XX  
PT New variant type 1 Interferon (IFN)-beta, alpha or kappa proteins  
PT exhibiting modified immunogenicity, useful for treating IFN-responsive  
PT diseases such as multiple sclerosis, viral hepatitis or cancer.  
XX  
PS Disclosure; Fig 1; 11pp; English.  
XX  
XX This invention describes a novel variant type 1 interferon (IFN)-beta,  
CC alpha or kappa protein exhibiting modified immunogenicity as compared to  
CC a wild type protein. The variant type 1 IFN-beta exhibits modified  
CC immunogenicity if there is at least one modification at a position  
CC selected from 1, 2, 3, 4, 5, 6, 8, 9, 12, 15, 16, 22, 28, 30, 32, 36, 42,  
CC 43, 46, 47, 48, 49, 51, 92, 93, 96, 100, 101, 104, 111, 113, 116, 117,  
CC 120, 121, 124, 130, 149, and 155. The variant type 1 IFN-alpha protein  
CC comprises at least one modification at position 16, 27, 30, 89, 100, 110,  
CC 111, 117, 128 or 161. The variant type 1 IFN-kappa protein comprises at  
CC least one modification at position 1, 5, 8, 15, 18, 28, 30, 33, 37, 46,  
CC 48, 52, 65, 68, 76, 79, 89, 97, 112, 115, 120, 127, 133, 151, 161, 168 or  
CC 171. The variant proteins are used in a method for treating an interferon  
CC -responsive disorder and for methods of modulating immunogenicity of IFN.  
CC The variant protein demonstrates reduced binding to at least one human  
CC class II MHC allele. The products of the invention have neuroprotective,  
CC antiinflammatory, hepatotropic, virucide and cytostatic activity and can  
CC be used for gene therapy. The composition and methods are useful for  
CC treating interferon-responsive diseases such as multiple sclerosis, viral  
CC hepatitis or cancer. This sequence represents a human type I interferon  
CC alpha protein used in the method of the invention.  
XX  
SQ Sequence 189 AA;  
Query Match 100.0%; Score 961; DB 9; Length 189;

Best Local Similarity 100.0%; Pred. No. 9,3e-84;  
Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALSFSLLMAVLVSYSTICSLGCDLPQTHSLGNRRALLILIAQNGRISPSFSLCKDRHDFG 60  
DB 1 MALSFSLLMAVLVSYSTICSLGCDLPQTHSLGNRRALLILIAQNGRISPSFSLCKDRHDFG 60  
QY 61 LPOSEFGNOFOKTOAISVHEMIQOTFNLFTSDSSAAWQSLLKFSSTLYOQLNNLE 120  
DB 61 LPOSEFGNOFOKTOAISVHEMIQOTFNLFTSDSSAAWQSLLKFSSTLYOQLNNLE 120  
QY 121 ACVIOEVMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVAEIMRSLSFSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

## RESULT 7

AAE14832  
ID AAE14832 standard; protein, 189 AA.

XX AAE14832;

DT 24-MAR-2003 (first entry)

DE Human interferon (IFN) alpha-17 precursor protein variant G45R.

XX Human; interferon alpha-17; IFNalpha-17; single nucleotide polymorphism;  
KM SNR; cancer; tumour; chronic myeloid leukaemia; infectious disease;  
KM viral infection; chronic hepatitis; acquired immune deficiency syndrome;  
KM AIDS; immune disorder; autoimmune disorder; allergy; obesity;  
KM rheumatoid arthritis; cardiovascular disease; metabolic disease;  
KM central nervous system disorder; CNS disorder; Alzheimer's disease;  
KM Parkinson's disease; chemotherapy treatment related disorder; wound;  
KM anaemia; osteoporosis; mutant; mutain.

XX Homo sapiens.

XX Key Location/Qualifiers

FT Peptide 1..23

FT Protein 24..189

FT Misc-difference 45 /note= "Wild-type Gly replaced by Arg"

XX WO200286156-A2.

XX 31-OCT-2002.

XX 23-APR-2002; 2002WO-EP005229.

XX 24-APR-2001; 2001FR-00005516.

XX (GENO-) GENODYSSEE.

XX Bescary J;

XX WPI, 2003-093152/08.

XX N-PSDB; AAD36842.

XX Novel isolated polynucleotide useful for identifying or amplifying  
PT polynucleotide, for analyzing biological characteristics of subject, and  
PT for preventing or treating cancer, metabolic and cardiovascular diseases.

XX Claim 14; Page; 64pp; English.

XX The invention relates to polynucleotide and polypeptide variants derived  
CC from human interferon (IFN) alpha-17 gene which comprises at least one  
CC single nucleotide polymorphism (SNP) selected from G771C and 809ins (A)

CC (insertion of base A at position 808). The IFNalpha-17 polynucleotide and  
CC polypeptide variants resulting due to SNP in the gene, or mimetic  
CC compounds having similar activity as the variants are used for preparing  
CC therapeutic agents for preventing or treating diseases such as cancers  
CC and tumours (e.g. chronic myeloid leukaemia, metastizing renal carcinoma),  
CC infectious diseases (e.g. viral infections including chronic hepatitis B  
CC and C, human immunodeficiency virus (HIV)/acquired immune deficiency  
CC syndrome (AIDS), infectious pneumonias, and venereal diseases such as  
CC genital warts), immunologically or autoimmunologically related diseases  
CC (e.g. rejection of tissue or organ grafts, allergies, asthma, psoriasis,  
CC rheumatoid arthritis, multiple sclerosis, Crohn's disease and ulcerative  
CC colitis), cardiovascular diseases, metabolic diseases (e.g. obesity),  
CC central nervous system (CNS) disorders (e.g. Alzheimer's disease,  
CC Parkinson's disease, schizophrenia, depression) and disorders connected  
CC with chemotherapy treatments. The therapeutic agents are also useful for  
CC preventing or treating wounds, anaemia in dialysed patient, and  
CC osteoporosis in an individual. The present sequence is human interferon  
CC (IFN) alpha-17 protein variant. Note: The present sequence is not shown in  
CC the specification, but is derived from wild-type human IFNalpha-17  
CC protein (SEQ ID NO: 2) shown in Sequence Listing (AAE14830)

XX Sequence 189 AA;

XX Query Match 99.2%; Score 953; DB 6; Length 189;

XX Best Local Similarity 99.5%; Pred. No. 5,4e-83;

XX Matches 189; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MALSFSLLMAVLVSYSTICSLGCDLPQTHSLGNRRALLILIAQNGRISPSFSLCKDRHDFG 60

DB 1 MALSFSLLMAVLVSYSTICSLGCDLPQTHSLGNRRALLILIAQNGRISPSFSLCKDRHDFG 60

QY 61 LPOSEFGNOFOKTOAISVHEMIQOTFNLFTSDSSAAWQSLLKFSSTLYOQLNNLE 120

DB 61 LPOSEFGNOFOKTOAISVHEMIQOTFNLFTSDSSAAWQSLLKFSSTLYOQLNNLE 120

QY 121 ACVIOEVMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVAEIMRSLSFSTN 180

DB 121 ACVIOEVMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVAEIMRSLSFSTN 180

QY 181 LQKILRRKD 189

DB 181 LQKILRRKD 189

## RESULT 8

AAE20111  
ID AAE20111 standard; protein, 189 AA.

XX AAE20111;

XX 25-MAR-2003 (revised)

XX 10-AUG-1992 (first entry)

XX Sequence encoded by leukocyte interferon leIF 1 cDNA.

XX Viral infection; therapy; malignancy.

XX Homo sapiens.

XX Key Location/Qualifiers

FT Peptide 1..23

FT /label= signal

XX GB2079291-A.

XX 20-JAN-1982.

XX 01-JUL-1981; 81GB-00020279.

XX 01-JUL-1980; 80US-00164986.

XX 08-SEP-1980; 80US-00184909.

XX 10-NOV-1980; 80US-00205578.

XX 21-APR-1981; 81US-00256204.

```

XX (HOPE) HOFMANN-LA ROCHE AG.
PA (GETH) GENENTECH INC.
PA (GETH) GENENTECH INC.
XX Goedel DVA, Peatka S;
XX WPI: 1982-04460E/03.
DR N-PSDB; AAN20098.
XX Mature human leukocyte interferon polypeptide(s) - prep'd. from microbes
PT transformed with appropriate DNA sequences.
XX Disclosure; Fig 9; 20pp; English.
XX The inventors claim a polypeptide comprising the AA sequence of a mature
CC human leif and a DNA sequence encoding it. leif A-D, F, H-J and encoding
CC DNA are specifically claimed. They are natural allelic variations. leif
CC is isolated from the leukocytes of humans with chronic myelogenous
CC leukaemia, induced to produce interferon with Sendai or Newcastle disease
CC virus; esp. the cell line KG-1. (Updated on 25-MAR-2003 to correct PF
CC field.) (Updated on 25-MAR-2003 to correct PA field.)
XX SQ Sequence 189 AA;

Query Match          97.9%; Score 941; DB 1; Length 189;
Best Local Similarity 98.9%; Pred. No. 7,6e-82;
Matches 187; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 MALSFSLMAVVLVLSYKISGLGCDLPQTHSLGNRRALLILAQMGRISSPSCLDKRDHDFG 60
DB 1 MALSFSLMAVVLVLSYKISGLGCDLPQTHSLGNRRALLILAQMGRISSPSCLDKRDHDFG 60
OY 61 LPOEFPDGNQFOKTOAIVLHEMIQOTFNLFTSTEDSSAAWEQSILKEFSTELYOQLNNLE 120
DB 61 LPOEFPDGNQFOKTOAIVLHEMIQOTFNLFTSTEDSSAAWEQSILKEFSTELYOQLNNLE 120
OY 121 ACVIOEVMGEMETPLMNDSDILAARVRYFORITLVYTEKYSPCAWEVVAEIMRSLSFSTN 180
DB 121 ACVIOEVMGEMETPLMNDSDILAARVRYFORITLVYTEKYSPCAWEVVAEIMRSLSFSTN 180
OY 181 LQKILRRKD 189
DB 181 LQKILRRKD 189

RESULT 9
ABG68061
ID ABG68061 standard; protein; 189 AA.
AC ABG68061;
XX 24-SEP-2002 (first entry)
DT Human interferon alpha (IFN alpha) #3.
DE
XX Interferon; immune system-related disorder; viral infection; cancer;
KM parasitic infection; bacterial infection; autoimmune disease;
KM multiple sclerosis; lymphoma; allergy; hairy cell leukaemia; hepatitis C;
KM Kaposi's sarcoma; chronic myelogenous leukaemia; multiple myeloma;
KM basal cell carcinoma; malignant melanoma; ovarian cancer; hepatitis D;
KM cutaneous T cell lymphoma; anti-viral therapy; acquired immune disorder;
KM chronic hepatitis B; papilloma virus infection; vaccine adjuvants;
KM multidrug-resistant pulmonary tuberculosis; rabies; feline panleukopenia;
KM feline leukaemia virus infections; feline infectious peritonitis;
KM inflammatory airway disease; human.
XX
OS Homo sapiens.
XX
XX WO200236627-A2.
XX
XX 10-MAY-2002.
XX

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PF 05-NOV-2001; 2001WO-US047226.
XX
XX 03-NOV-2000; 2000US-0245754P.
PR 03-NOV-2000; 2000US-0246234P.
XX
XX (PBLB-) PBL BIOMEDICAL LAB.
PA
XX Peatka S;
PI
XX WPI: 2002-519235/55.
DR N-PSDB; ABK96741.
XX
XX Novel isolated interferon polypeptide and polynucleotides encoding the
PT polypeptide, useful for treating an immune system-related disorder e.g.
PT viral, parasitic or bacterial infections or allergy, in a non-human
PT animal.
XX
XX Claim 1; Page 75; 97pp; English.
XX
XX The invention describes an isolated interferon polypeptide (I). (I) is
CC useful for treating an immune system-related disorder, such as viral
CC infection, parasitic infection, bacterial infection, cancer, autoimmune
CC disease, multiple sclerosis, lymphoma, or allergy in a patient.
CC preferably a non-human animal, cancer, hairy cell leukaemia, Kaposi's
CC sarcoma, chronic myelogenous leukaemia, multiple myeloma, basal cell
CC carcinoma, malignant melanoma, ovarian cancer and cutaneous T cell
CC lymphoma. (I) can also be used for anti-viral therapy e.g. in the
CC treatment of acquired immune disorders, e.g. chronic hepatitis B,
CC hepatitis C, hepatitis D, papilloma virus infections, etc. (I) can be
CC used as part of an immunotherapy protocol, or as vaccine adjuvants. (I)
CC is also useful for treating bacterial infections e.g. multidrug-resistant
CC pulmonary tuberculosis. Most preferably (I) is useful for treating cats
CC as part of veterinary protocols, and thus are useful for treating viral
CC infections (e.g. feline leukaemia virus infections), feline
CC panleukopenia, feline infectious peritonitis, rabies, inflammatory airway
CC disease, in cats. (I) is also useful for treating dogs or other household
CC pets, and other farm animals. This is the amino acid sequence of a human
CC interferon-alpha described in the invention
XX
XX SQ Sequence 189 AA;

Query Match          96.7%; Score 929; DB 5; Length 189;
Best Local Similarity 96.3%; Pred. No. 1.1e-80;
Matches 182; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

OY 1 MALSFSLMAVVLVLSYKISGLGCDLPQTHSLGNRRALLILAQMGRISSPSCLDKRDHDFG 60
DB 1 MALSFSLMAVVLVLSYKISGLGCDLPQTHSLGNRRALLILAQMGRISSPSCLDKRDHDFG 60
OY 61 LPOEFPDGNQFOKTOAIVLHEMIQOTFNLFTSTEDSSAAWEQSILKEFSTELYOQLNNLE 120
DB 61 LPOEFPDGNQFOKTOAIVLHEMIQOTFNLFTSTEDSSAAWEQSILKEFSTELYOQLNNLE 120
OY 121 ACVIOEVMGEMETPLMNDSDILAARVRYFORITLVYTEKYSPCAWEVVAEIMRSLSFSTN 180
DB 121 ACVIOEVMGEMETPLMNDSDILAARVRYFORITLVYTEKYSPCAWEVVAEIMRSLSFSTN 180
OY 181 LQKILRRKD 189
DB 181 LQKILRRKD 189

RESULT 10
ADY67643
ID ADY67643 standard; protein; 189 AA.
AC ADY67643;
XX 02-JUN-2005 (first entry)
DT Human interferon alpha SEQ ID NO 42.
DE
XX viral infection; interferon; virucide; vaccine; cytokine.
XX

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XX OS Homo sapiens.
XX PN WO2005023290-A2.
XX PD 17-MAR-2005.
XX PE 21-MAY-2004; 2004WO-US016201.
XX PR 23-MAY-2003; 2003US-0473134P.
XX PA (PEST-) PESTYA BIOMEDICAL LAB INC.
XX PI Peacka S, Lavoie TB, Clark WA;
XX DR WPI; 2005-223282/23.
XX DR N-PSDB; ADY67642.
XX PT Treating a virus-infected subject or reducing the subject's risk of viral
XX PT infection comprises administering to the subject an interferon
XX PT polypeptide.
XX PS Claim 1; SEQ ID NO 42; 185pp; English.
XX CC The invention relates to a method of treating a virus-infected subject or
XX CC reducing the subject's risk of viral infection comprising administering
XX CC to the subject an interferon polypeptide that is not a naturally
XX CC occurring interferon allele. The method is useful in treating a virus-
XX CC infected subject or reducing the subject's risk of viral infection. The
XX CC present sequence represents a human interferon alpha.
XX SQ Sequence 189 AA;

Query Match          96.7%; Score 929; DB 9; Length 189;
Best Local Similarity 96.3%; Pred. No. 1.1e-80;
Matches 182; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISGICSLGCDLPQTHSLGNRRALILIAOMGRISPSGCLDRHDFG 60
DB 1 MALSFSLIMAVLVSYKISGICSLGCDLPQTHSLGNRRALILIAOMGRISPSGCLDRHDFR 60
QY 61 LPQEFPGNQFOKQALSVLHEMIQOTFNLFTEDSSAAEQSLLEKFSSTELYOQNLNLE 120
DB 61 IPOEFPGNQFOKQALSVLHEMIQOTFNLFTEDSSAAEQSLLEKFSSTELYOQNLNLE 120
QY 121 ACVIOEVMETPLMNEEDSILAARKYFORITLYLTEKKYSPCAWEVRAEIMRSLSFSTN 180
DB 121 ACVIOEVMETPLMNEEDSILAARKYFORITLYLTEKKYSPCAWEVRAEIMRSLSFSTN 180
QY 181 LQKILRRKD 189
DB 181 LQKILRRKD 189

RESULT 11
AAB12967
ID AAB12967 standard; protein; 189 AA.
XX AC AAB12967;
XX DT 27-NOV-2000 (first entry)
XX DB Human interferon-alpha protein sequence SEQ ID #3.
XX DE Interferon alpha subtype; human; antiviral; cytosolic; neuroprotective;
XX KW cancer; Kaposi's sarcoma; non-Hodgkin's lymphoma; melanoma; leukaemia;
XX KW viral disease; hepatitis B; hepatitis C; herpes; cytomegalovirus; HIV;
XX KW HTLV-1; immune disorder; multiple sclerosis; SSPE; Shigren disease;
XX KW Padgett's disease.
XX OS Homo sapiens.
XX PN WO200042186-A1.

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XX PD 20-JUL-2000.
XX PE 05-JAN-2000; 2000WO-JP000015.
XX PR 12-JAN-1999; 99JP-00005138.
XX PA (SUMI) SUMITOMO PHARM CO LTD.
XX PI Kojima S, Asakura A, Futatsuji T, Ota Y, Fukuda Y, Sagara S;
XX DR WPI; 2000-491057/43.
XX DR N-PSDB; AAA73601.
XX PT Novel human interferon alpha subtype with high specific activity, for use
XX PT as an antiviral and anticancer agent.
XX PS Claim 1; Page 31-32; 40pp; Japanese.
XX CC This sequence represents human interferon alpha subtype protein. The
XX CC invention relates to the interferon alpha subtype nucleotide and protein
XX CC sequences, and includes vectors containing the DNA, host cells
XX CC transformed with the vectors, and methods for the production of the
XX CC recombinant interferon alpha using the transformants. The novel
XX CC interferon alpha exhibits antiviral, cytosolic, neuroprotective and
XX CC immunomodulatory activity. The recombinant protein encoded by the
XX CC interferon alpha subtype DNA can be used in the treatment and prevention
XX CC of cancer (e.g. renal cancer, breast cancer, pancreatic cancer, small
XX CC cell cancer, head and neck cancer, skin cancer, Kaposi's sarcoma, non-
XX CC Hodgkin's lymphoma, melanoma, T-cell leukaemia and hairy cell leukaemia),
XX CC viral diseases (e.g. hepatitis B and C, herpes, cytomegalovirus, HIV and
XX CC HTLV-1) and immune disorders (e.g. multiple sclerosis, SSPE, Shigren
XX CC disease and Padgett's disease).
XX SQ Sequence 189 AA;

Query Match          95.8%; Score 921; DB 3; Length 189;
Best Local Similarity 95.8%; Pred. No. 6.3e-80;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISGICSLGCDLPQTHSLGNRRALILIAOMGRISPSGCLDRHDFG 60
DB 1 MALSFSLIMAVLVSYKISGICSLGCDLPQTHSLGNRRALILIAOMGRISPSGCLDRHDFR 60
QY 61 LPQEFPGNQFOKQALSVLHEMIQOTFNLFTEDSSAAEQSLLEKFSSTELYOQNLNLE 120
DB 61 IPOEFPGNQFOKQALSVLHEMIQOTFNLFTEDSSAAEQSLLEKFSSTELYOQNLNLE 120
QY 121 ACVIOEVMETPLMNEEDSILAARKYFORITLYLTEKKYSPCAWEVRAEIMRSLSFSTN 180
DB 121 ACVIOEVMETPLMNEEDSILAARKYFORITLYLTEKKYSPCAWEVRAEIMRSLSFSTN 180
QY 181 LQKILRRKD 189
DB 181 LQKILRRKD 189

RESULT 12
ABG68062
ID ABG68062 standard; protein; 189 AA.
XX AC ABG68062;
XX DT 24-SEP-2002 (first entry)
XX DB Human interferon alpha (IFN alpha) #4.
XX DE Interferon; immune system-related disorder; viral infection; cancer;
XX KW parasitic infection; bacterial infection; autoimmune disease; hepatitis C;
XX KW multiple sclerosis; lymphoma; allergy; hairy cell leukaemia; hepatitis C;
XX KW Kaposi's sarcoma; chronic myelogenous leukaemia; multiple myeloma;
XX KW basal cell carcinoma; malignant melanoma; ovarian cancer; hepatitis D;
XX KW cutaneous T cell lymphoma; anti-viral therapy; acquired immune disorder;

```

KM chronic hepatitis B; papilloma virus infection; vaccine adjuvants;  
 KM multidrug-resistant pulmonary tuberculosis; rabies; feline pantothenemia;  
 KM feline leukaemia virus infections; feline infectious peritonitis;  
 KM inflammatory airway disease; human.

OS Homo sapiens.

PN WO200236627-A2.

XX 10-MAY-2002.

PF 05-NOV-2001; 2001WO-US047226.

PR 03-NOV-2000; 2000US-0245754P.

PR 03-NOV-2000; 2000US-0246234P.

PA (PBLB-) PBL BIOMEDICAL LAB.

PI Pestka S;

DR MPI, 2002-519235/55.

DR N-PSDB; ABR6742.

PT Novel isolated interferon polypeptide and polynucleotides encoding the  
 PT polypeptide, useful for treating an immune system-related disorder e.g.  
 PT viral, parasitic or bacterial infections or allergy, in a non-human  
 PT animal.

PS Claim 1; Page 77; 97pp; English.

XX The invention describes an isolated interferon polypeptide (I). (I) is  
 CC useful for treating an immune system-related disorder, such as viral  
 CC infection, parasitic infection, bacterial infection, cancer, autoimmune  
 CC disease, multiple sclerosis, lymphoma, or allergy in a patient,  
 CC preferably a non-human animal, cancer, hairy cell leukaemia, Kaposi's  
 CC sarcoma, chronic myelogenous leukaemia, multiple myeloma, basal cell  
 CC carcinoma, malignant melanoma, ovarian cancer and cutaneous T cell  
 CC lymphoma. (I) can also be used for anti-viral therapy e.g. in the  
 CC treatment of acquired immune disorders, e.g. chronic hepatitis B,  
 CC hepatitis C, hepatitis D, papilloma virus infections, etc. (I) can be  
 CC used as part of an immunotherapy protocol, or as vaccine adjuvants. (I)  
 CC is also useful for treating bacterial infections e.g. multidrug-resistant  
 CC pulmonary tuberculosis. Most preferably (I) is useful for treating cats  
 CC as part of veterinary protocols, and thus are useful for treating viral  
 CC infections (e.g. feline leukaemia virus infections), feline  
 CC pantothenemia, feline infectious peritonitis, rabies, inflammatory airway  
 CC disease, in cats. (I) is also useful for treating dogs or other household  
 CC pets, and other farm animals. This is the amino acid sequence of a human  
 CC interferon-alpha described in the invention

SO Sequence 189 AA;

Query Match 95.8%; Score 921; DB 5; Length 189;

Best Local Similarity 95.8%; Pred. No. 6.3e-80;

Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISCSIGCDLPOTHSIGNRRALIIAOWGRISPSFCIKDRHDFG 60  
 DB 1 MALSFSLIMAVLVSYKISCSIGCDLPOTHSIGNRRALIIAOWGRISPSFCIKDRHDFR 60  
 QY 61 LPOEFPDGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSILKRFSTELYOQLNMLE 120  
 DB 61 IPOEFPDGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSILKRFSTELYOQLNMLE 120  
 QY 121 ACVIOEVMETPLMNEISILAVKRYFORITLYLTKKYSPCAMEVVAEIMRSISFSTN 180  
 DB 121 ACVIOEVMETPLMNEISILAVKRYFORITLYLTKKYSPCAMEVVAEIMRSISFSTN 180  
 QY 181 LQKILRRKD 189  
 DB 181 LQKILRRKD 189

RESULT 13

ADY67645

ID ADY67645 standard; protein; 189 AA.

AC ADY67645;

DT 02-JUN-2005 (first entry)

DE Human interferon alpha SEQ ID NO 44.

KM viral infection; interferon; virucide; vaccine; cytokine.

OS Homo sapiens.

PN WO2005023290-A2.

XX 17-MAR-2005.

PF 21-MAY-2004; 2004WO-US016201.

PR 23-MAY-2003; 2003US-0473134P.

PA (PEST-) PESTRA BIOMEDICAL LAB INC.

PI Pestka S, Lavoie TB, Clark WA;

DR MPI; 2005-223282/23.

DR N-PSDB; ADY67644.

PT Treating a virus-infected subject or reducing the subject's risk of viral  
 PT infection comprises administering to the subject an interferon  
 PT polypeptide.

PS Claim 1; SEQ ID NO 44; 185pp; English.

XX The invention relates to a method of treating a virus-infected subject or  
 CC reducing the subject's risk of viral infection comprising administering  
 CC to the subject an interferon polypeptide that is not a naturally  
 CC occurring interferon allele. The method is useful in treating a virus-  
 CC infected subject or reducing the subject's risk of viral infection. The  
 CC present sequence represents a human interferon alpha.

SO Sequence 189 AA;

Query Match 95.8%; Score 921; DB 9; Length 189;

Best Local Similarity 95.8%; Pred. No. 6.3e-80;

Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISCSIGCDLPOTHSIGNRRALIIAOWGRISPSFCIKDRHDFG 60  
 DB 1 MALSFSLIMAVLVSYKISCSIGCDLPOTHSIGNRRALIIAOWGRISPSFCIKDRHDFR 60  
 QY 61 LPOEFPDGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSILKRFSTELYOQLNMLE 120  
 DB 61 IPOEFPDGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSILKRFSTELYOQLNMLE 120  
 QY 121 ACVIOEVMETPLMNEISILAVKRYFORITLYLTKKYSPCAMEVVAEIMRSISFSTN 180  
 DB 121 ACVIOEVMETPLMNEISILAVKRYFORITLYLTKKYSPCAMEVVAEIMRSISFSTN 180  
 QY 181 LQKILRRKD 189  
 DB 181 LQKILRRKD 189

RESULT 14

AAP30101

ID AAP30101 standard; protein; 189 AA.

AC AAP30101;

DT 25-MAR-2003 (revised)

DT 05-AUG-1992 (first entry)

```

XX DE Sequence encoding interferon IFN-alpha-76.
XX KW Antiviral; cell growth regulator; cancer; tumour; therapy.
XX OS Homo sapiens.
XX FT Key 1.23
XX FT Peptide /label= SIGNAL
XX PN W08302457-A.
XX PD 21-JUL-1983.
XX PF 15-JAN-1982; 82US-00339826.
XX PR 15-JAN-1982; 82US-00339826.
XX PR 02-SEP-1982; 82US-00414053.
XX PA (CETU ) CETUS CORP.
XX PA (CETU ) CETUS CORP.
XX PI Innis MA;
XX DR WPI: 1983-723182/30.
XX DR N-PSDB; AAN30108.
XX PT Interferon-alpha 76 - useful as antiviral and cell growth regulatory
XX PT agent.
XX PS Disclosure; Fig 5; 28pp; English.
XX CC The inventors claim IFN-alpha-76 and DNA encoding it (see AAN30108,
XX CC AAB30101). IFN-alpha-76 is made by identifying and isolating the gene by
XX CC screening a library of human genomic DNA with an approp. IFN- alpha DNA
XX CC probe. It is useful as antiviral and cell growth regulatory agent. Dose
XX CC is 10(4)-10(7) i.u. The mature peptide (residues 24-189) is claimed
XX CC (claim 1). (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-
XX CC MAR-2003 to correct DR field.)
XX SQ Sequence 189 AA;
XX
Query Match 95.6%; Score 919; DB 1; Length 189;
Best Local Similarity 95.8%; Pred. No. 9.7e-80;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
QY 1 MALSFSLLMAVVLVSYKISGCDLPQTHSLGNRRALILIAQMGRISSPSCCLKDRHDFG 60
DB 1 MALSFSLLMAVVLVSYKISGCDLPQTHSLGNRRALILIAQMGRISSPSCCLKDRHDFG 60
QY 61 LPOEFPDGNQFOKQOAI SVLHEMIQOTFNLFSTEDSSAAWQSLEKSTELYOQLNLE 120
DB 61 PPEEFPDGHQFOKQOAI SVLHEMIQOTFNLFSTEDSSAAWQSLEKSTELYOQLNLE 120
QY 121 ACVIOEVGMERTPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSTN 180
DB 121 ACVIOEVGMERTPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSTN 180
QY 181 LQKILRRKD 189
DB 181 LQKILRRKD 189
XX
RESULT 15
ID AAP50306 standard; protein; 189 AA.
XX AAP50306;
XX AC
XX AC AAP50306;
XX DT 25-MAR-2003 (revised)
XX DT 18-MAR-1992 (first entry)
XX

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DE Human interferon-alpha-M1 protein.
XX KW Interferon-alpha-M1; immunostimulant; virucide; antitumor; ss.
XX OS Homo sapiens.
XX PN W08502862-A.
XX PD 04-JUL-1985.
XX PF 20-DEC-1984; 84WO-AU000263.
XX PR 23-DEC-1983; 83AU-00002982.
XX PR 20-DEC-1984; 84AU-00037009.
XX PA (MONTU ) UNIV MONASH.
XX PA (LINN/) LINNANE A W.
XX PA (COMW ) COMMONWEALTH SERUM LAB COMMISS.
XX DR WPI: 1985-171371/28.
XX DR N-PSDB; AAN50357.
XX PT New DNA coding for human alpha-interferon - is obtd. from human genome
XX PT library by using hybridisation probes.
XX PS Disclosure; Fig 2; 19pp; English.
XX CC This protein may be expressed in Escherichia coli using a vector phage
XX CC M13. The gene encoding it was isolated from the human genome using
XX CC hybridization probes. The human IFN-alpha-M1 has antiviral,
XX CC antiproliferative and immune response modulating activities. See also
XX CC AAN50358 and AAP50307. (Updated on 25-MAR-2003 to correct PR field.)
XX CC (Updated on 25-MAR-2003 to correct PA field.)
XX SQ Sequence 189 AA;
XX
Query Match 95.6%; Score 919; DB 1; Length 189;
Best Local Similarity 95.8%; Pred. No. 9.7e-80;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
QY 1 MALSFSLLMAVVLVSYKISGCDLPQTHSLGNRRALILIAQMGRISSPSCCLKDRHDFG 60
DB 1 MALSFSLLMAVVLVSYKISGCDLPQTHSLGNRRALILIAQMGRISSPSCCLKDRHDFG 60
QY 61 LPOEFPDGNQFOKQOAI SVLHEMIQOTFNLFSTEDSSAAWQSLEKSTELYOQLNLE 120
DB 61 PPEEFPDGHQFOKQOAI SVLHEMIQOTFNLFSTEDSSAAWQSLEKSTELYOQLNLE 120
QY 121 ACVIOEVGMERTPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSTN 180
DB 121 ACVIOEVGMERTPLMNEDSLIAVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSTN 180
QY 181 LQKILRRKD 189
DB 181 LQKILRRKD 189
XX
Search completed: December 15, 2005, 13:34:15
Job time : 192 secs

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GenCore version 5.1.6  
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 15, 2005, 13:25:38 ; Search time 229 Seconds

(without alignments)  
582.292 Million cell updates/sec

Title: US-10-691-653-2

Sequence: 1 MALSFSLMNVLTYSKIC.....EIKRSLSFTNLQIKLRKD 189

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : UniProt\_05.80.\*  
1: uniprot\_sprotc.\*  
2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	961	100.0	189	1 IFN17_HUMAN	P01571 homo sapien
2	961	100.0	189	2 Q5VZ53_HUMAN	P05253 homo sapien
3	919	95.6	189	1 IFNA4_HUMAN	P05014 homo sapien
4	919	95.6	189	2 Q5V15_HUMAN	P01566 homo sapien
5	917	95.4	189	1 IFN10_HUMAN	P01567 homo sapien
6	917	95.4	189	2 Q5V13_HUMAN	P01567 homo sapien
7	882	91.8	189	1 IFNA7_HUMAN	P01567 homo sapien
8	882	91.8	189	2 Q5V14_HUMAN	P01567 homo sapien
9	872	90.7	189	1 IFN21_HUMAN	P01568 homo sapien
10	872	90.7	189	2 Q5VWD1_HUMAN	P01568 homo sapien
11	837	87.1	189	1 IFN16_HUMAN	P01568 homo sapien
12	837	87.1	189	2 Q5V12_HUMAN	P01568 homo sapien
13	837	87.1	189	2 Q5V12_HUMAN	P01568 homo sapien
14	826	86.0	189	1 IFNA5_HUMAN	P01568 homo sapien
15	821	85.4	189	1 IFNA5_HUMAN	P01568 homo sapien
16	821	85.4	189	2 Q521X3_HUMAN	P01568 homo sapien
17	813	84.6	189	1 IFNA14_HUMAN	P01570 homo sapien
18	813	84.6	189	2 Q5V256_HUMAN	P01570 homo sapien
19	791	82.3	189	2 Q5V278_HUMAN	P01570 homo sapien
20	770.5	80.2	189	2 Q521B8_HUMAN	P01570 homo sapien
21	770.5	80.2	189	1 IFNA1_HUMAN	P01562 homo sapien
22	769	80.0	189	1 IFNA1_HUMAN	P01562 homo sapien
23	769	80.0	189	2 Q5VYQ2_HUMAN	P01562 homo sapien
24	769	80.0	189	2 Q5VYQ2_HUMAN	P01562 homo sapien
25	768	79.9	189	1 IFNA6_HUMAN	P05013 homo sapien
26	768	79.9	189	2 Q5VYQ1_HUMAN	P05013 homo sapien
27	767.5	79.9	189	1 IFNA2_HUMAN	P01563 homo sapien
28	756	78.7	189	1 IFNA8_HUMAN	P13881 homo sapien
29	756	78.7	189	2 Q5VYQ3_HUMAN	P01563 homo sapien
30	741	77.1	174	2 Q5VYQ3_HUMAN	P01563 homo sapien
31	721	75.0	184	1 IFNA4_HUMAN	P05006 equus caball

## ALIGNMENTS

32	717	74.6	184	1 IFNA2_HORSE	P05004 equus caball
33	715	74.4	184	1 IFNA1_HORSE	P05003 equus caball
34	709	73.8	184	1 IFNA3_HORSE	P05003 equus caball
35	694.5	72.3	166	2 Q86UP4_HUMAN	Q86UP4 homo sapien
36	690	71.8	166	2 Q8W268_HUMAN	Q8W268 homo sapien
37	651	67.7	189	2 Q6VAB8_PIG	Q6VAB8 sus scrofa
38	647.5	67.4	154	2 Q6ONB6_HUMAN	Q6ONB6 homo sapien
39	644	67.0	189	1 IFNA1_PIG	P49879 sus scrofa
40	626	65.1	189	2 Q6RTQ5_PIG	Q6RTQ5 sus scrofa
41	615	64.0	189	2 Q6QTF5_PIG	Q6QTF5 sus scrofa
42	612	63.7	189	1 IFNAH_BOVIN	P49878 bos taurus
43	610	63.5	166	2 Q5U8T2_PIG	Q5U8T2 sus scrofa
44	608	63.3	189	1 IFNA1_BOVIN	P07348 bos taurus
45	605	63.0	166	2 Q5U8T1_PIG	Q5U8T1 sus scrofa

RESULT 1

IFN17_HUMAN	STANDARD;	PRT;	189 AA.
1C	IFN17_HUMAN		
AD	P01571; Q14639;		
DT	21-JUL-1986 (Rel. 01, Created)		
DT	01-OCT-1994 (Rel. 30, Last sequence update)		
DT	13-SEP-2005 (Rel. 48, Last annotation update)		
DE	Interferon alpha-17 precursor (Interferon alpha-1') (Interferon alpha-T)		
DE	T) (Interferon alpha-88).		
GN	Name=IFNA17;		
OS	Homo sapiens (Human).		
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;		
OC	Homo.		
OX	NCBI_TaxID=9606;		
OX	[1]		
RP	NUCLEOTIDE SEQUENCE.		
RX	MEDLINE=81201124; PubMed=6165082;		
RA	Lawn R.M., Adelman J., Dull T.J., Gross M., Goeddel D.V., Ulrich A.;		
RT	"DNA sequence of two closely linked human leukocyte interferon genes."		
RT	Science 212:1159-1162(1981).		
RL	[2]		
RN	NUCLEOTIDE SEQUENCE.		
RP	MEDLINE=8522953; PubMed=3891272;		
RX	Mizoguchi J., Pitha P.M., Raj N.B.K.;		
RA	"Efficient expression in Escherichia coli of two species of human interferon-alpha and their hybrid molecules."		
RT	DNA 4:221-232(1985).		
RL	[3]		
RN	NUCLEOTIDE SEQUENCE OF 14-189		
RP	MEDLINE=85235859; PubMed=4008999;		
RX	Lund B., von Gabain A., Edlund T., Ny T., Lundgren E.;		
RA	"Differential expression of interferon genes in a substrain of Namalwa cells."		
RT	J. Interferon Res. 5:229-238(1985).		
RL	[4]		
RN	NUCLEOTIDE SEQUENCE.		
RP	MEDLINE=87024453; PubMed=3767336;		
RX	Seveliev V.I., Zlochevsky M.L., Sorokin A.V., Naroditskaya V.A.,		
RA	Bolotin A.P., Denysanova N.G., Kozlov Y.I., Neznanov N.S.;		
RA	Gazaryan K.G., Monastyrskaya G.S., Sverdlov B.D.;		
RT	"Cloning and the determination of the nucleotide sequences in 2 genes of human leukocyte interferon."		
RT	Antibiot. Med. Biotechnol. 31:592-596(1986).		
RL	[5]		
RN	PROTEIN SEQUENCE OF 24-58.		
RP	MEDLINE=98087498; PubMed=9425112;		
RX	Nyman T.A., Toeloe H., Parkkinen J., Kalkkinen N.;		
RA	"Identification of nine interferon-alpha subtypes produced by Sendai virus-induced human peripheral blood leucocytes."		
RT	Biotech. J. 329:295-302(1998).		
RL	[6]		
RN	NUCLEOTIDE SEQUENCE OF 24-56.		



Query Match 100.0%; Score 961; DB 2; Length 189;  
 Best Local Similarity 100.0%; Pred. No. 4 4e-75;  
 Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYLVSYSICSLGCDLPQTHSLGNRRALLILAOMGRISPSCLKDRHDFG 60  
 DB 1 MALSFSLMAVLYLVSYSICSLGCDLPQTHSLGNRRALLILAOMGRISPSCLKDRHDFG 60  
 QY 61 LPQEEFDGNOFOKTOAISVLHMIQOTFNLFTSEDSAAAEOSLLKFSFTELYQOLNNLE 120  
 DB 61 LPQEEFDGNOFOKTOAISVLHMIQOTFNLFTSEDSAAAEOSLLKFSFTELYQOLNNLE 120  
 QY 121 ACTIOEGMEETPLNMEDSLIAVRKYFORITLTLTEKKYSPCAMEVYRAIMRSLSFSTN 180  
 DB 121 ACTIOEGMEETPLNMEDSLIAVRKYFORITLTLTEKKYSPCAMEVYRAIMRSLSFSTN 180  
 QY 181 LOKILRRKD 189  
 DB 181 LOKILRRKD 189

RESULT 3  
 IFNA4 HUMAN  
 ID IFNA4 HUMAN STANDARD; PRT; 189 AA.  
 AC P05014; P13358;  
 DT 13-ANG-1987 (Rel. 05, Created)  
 DT 10-MAY-2005 (Rel. 47, Last sequence update)  
 DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Interferon alpha-4 precursor (Interferon alpha-4B) (Interferon alpha-4M1) (Interferon alpha-76).  
 GN Name=IFNA4;  
 OS Homo sapiens (human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
 OC Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE, AND VARIANTS ALPHA-4B THR-74 AND VAL-137.  
 RX MEDLINE=6037205; Pubmed=4057246; Fujisawa J.-I., Haynes J.R., Henko K., Brosius J., Fujisawa A., Schambeck A., Schmidt J., Hochstadt J., Kovacic T., Pasek M., Weissmann C., Todokoro K., Maelchli M., Nagata S., Weissmann C.; "structural relationship of human interferon alpha genes and pseudogenes."; J. Mol. Biol. 185:227-260(1985).  
 RT [2]  
 RN NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=84307815; Pubmed=6089830; Linnane A.W., Belharz M.W., McMullen G.L., Macreadie I.G., Murphy M., Nisbet I.T., Novitski C.E., Woodrow G.C.; "Nucleotide sequence and expression in E. coli of a human interferon-alpha gene selected from a genomic library using synthetic oligonucleotides."; Biochem. Int. 8:725-732(1984).  
 RL [3]  
 RN NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA], AND VARIANT THR-74.  
 RX MEDLINE=22388257; Pubmed=12477932; DOI=10.1073/pnas.242603899; Krausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Sauer R.D., Collins F.S., Wagner L., Shenman C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusik K., Farmer A.A., Rubin G.W., Hong L., Scapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Udell T.B., Toshitsuki S., Cavonius P., Prange C., Raha S.S., Loguailano N.A., Peters G.J., Abramson R.D., Mullaly S.J., Bosak S.A., McGraw P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Wotley K.C., Hale S., Garcia A.M., Gay L.J., Hulik S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fehey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butcherfield Y.S.N., Krzywicki M.I., Skalska U., Smalhe U., Smalhe D.E.,

RA Schmerch A., Schein J.E., Jones S.J.M., Maria M.A.; "Generation and initial analysis of more than 15,000 full-length human RT and mouse cDNA sequences."; Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RL [4]  
 RN PROTEIN SEQUENCE OF 24-56.  
 RX MEDLINE=98087498; Pubmed=9425112; Nyman T.A., Toeloe H., Parkkinen J., Kalkkinen N.; "Identification of nine interferon-alpha subtypes produced by Sendai virus-induced human peripheral blood leucocytes."; Biochem. J. 329:295-302(1998).  
 RL [5]  
 RN POLYMORPHISM.  
 RP MEDLINE=97474410; Pubmed=9335434; Hussein M., Gill D.S., Liao M.-J.; "Both variant forms of interferon-alpha4 gene (IFNA4 and IFNA4b) are present in the human population."; J. Interferon Cytokine Res. 17:559-566(1997).  
 CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral activities. Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- POLYMORPHISM: Two forms exist; alpha-4a (shown here) and alpha-4b. They seem to be equally abundant.  
 CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL database at the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.  
 CC EMBL; X02955; CA26701.1; -; Genomic\_DNA.  
 DR EMBL; W27318; AA52726.1; -; mRNA.  
 DR EMBL; BC074965; AA74965.1; -; mRNA.  
 DR EMBL; BC074966; AA74966.1; -; mRNA.  
 DR PIR; E23753; IVHUB.  
 DR PIR; E23753; IVHUB.  
 DR HSSP; P01563; 1ITP.  
 DR SMK; P05014; 24-189.  
 DR ENSEMBL; ENSG00000147877; Homo sapiens.  
 DR HGN; HGNC:5425; IFNA4.  
 DR MIM; 147564; -.  
 DR GO; GO:0005132; F:interferon-alpha/beta receptor binding; TAS.  
 DR GO; GO:0005615; P:response to virus; TAS.  
 DR INTERP; IPR000471; Interferon\_abd.  
 DR PANTHER; PTHR11691; Interferon\_abd; 1.  
 DR Pfam; PF00143; Interferon; 1.  
 DR PRINTS; PR00266; INTERFERONAB.  
 DR SMART; SM00076; IFab; 1.  
 DR PROSITE; PS00252; INTERFERON\_A\_B\_D; 1.  
 KW Antiviral defense; Cytokine; Direct protein sequencing; Multigene family; Polymorphism; Signal.  
 FT SIGNAL 1 23  
 FT CHAIN 24 189 Interferon alpha-4.  
 FT DISULFID 24 122 By similarity.  
 FT DISULFID 52 162 By similarity.  
 FT VARIANT 74 74 A -> T (in alpha-4B; dbSNP:1062571).  
 FT VARIANT 137 137 E -> V (in alpha-4B; dbSNP:3750480).  
 FT FTid=VAR\_013003.  
 FT SEQUENCE 189 AA; 21808 MW; 828DP9C3ABC337F CRC64;  
 SO

Query Match 95.6%; Score 919; DB 1; Length 189;  
 Best Local Similarity 95.8%; Pred. No. 1 3e-71;  
 Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYLVSYSICSLGCDLPQTHSLGNRRALLILAOMGRISPSCLKDRHDFG 60  
 DB 1 MALSFSLMAVLYLVSYSICSLGCDLPQTHSLGNRRALLILAOMGRISPSCLKDRHDFG 60  
 QY 61 LPQEEFDGNOFOKTOAISVLHMIQOTFNLFTSEDSAAAEOSLLKFSFTELYQOLNNLE 120

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Db      61 PFEEDFHQFOKAQAIIVLHEMIQOTFNLFTEDSSAAMEQSLLKEFSTELYYQOLNDLE 120
Qy      121 ACVIOEVGMERTPLMNEDESIILAVKRYFORITLYLETKYSPCAMVVAEIMRSISFSTN 180
Db      121 ACVIOEVGMERTPLMNEDESIILAVKRYFORITLYLETKYSPCAMVVAEIMRSISFSTN 180
Qy      181 LOKILRRKD 189
Db      181 LOKILRRKD 189

RESULT 4
OSV15.5 HUMAN
ID OSV15.5_HUMAN PRELIMINARY; PRT; 189 AA.
AC OSV15.5
DT 01-FEB-2005 (TRENBLREL. 29, Created)
DT 01-FEB-2005 (TRENBLREL. 29, Last sequence update)
DE Interferon, alpha 4.
GN Name=IFNA4; ORFNames=RP11-1P8.4-001;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homindaes;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Pelan S.;
RL Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: Secreted (by similarity).
DR EMBL; AL512606; CAH71188.1; -; Genomic DNA.
DR SMR; OSV15.5: 24-189.
DR Ensembl; ENSG00000147877; Homo sapiens.
DR GO; GO:0005615; C:extracellular space; IEA.
DR GO; GO:0005126; F:hematopoietin/interferon-claes (D200-domain. .; IEA.
DR GO; GO:0006952; P:defence response; IEA.
DR GO; GO:0006951; P:response to virus; IEA.
DR InterPro; IPR00471; Interferon_abd.
DR Pfam; PF00143; Interferon; 1.
DR PRINTS; PR00266; INTERFERONAB.
DR PRODOM; PD000550; Interferon_abd; 1.
DR SMART; SM00076; IFabd; 1.
DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW Antiviral defense; Cytokine.
SQ SEQUENCE 189 AA; 21808 MW; 828DP9C33ABC37F CRC64;

Query Match 95.6%; Score 919; DB 2; Length 189;
Best Local Similarity 95.8%; Pred. No. 1.9e-71;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

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DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Interferon alpha-10 precursor (Interferon alpha-C) (Ielf C)
GN (Interferon alpha-6L).
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homindaes;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=81148795; PubMed=6163083;
RA Goeddel D.V., Leung D.W., Dull T.J., Gross M., Lawn R.M.,
RA McCandlish R., Seeburg P.H., Ulrich A., Yelveton E., Gray P.W.;
RT "The structure of eight distinct cloned human leukocyte interferon
RT cDNAs."
RL Nature 290:20-26(1991).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=89328015; PubMed=2526839;
RA Bartholomew C., Windass J.D.;
RT "Identification of a functional allele of a human interferon-alpha
RT gene previously characterized as a pseudogene."
RL J. Interferon Res. 9:407-417(1989).
RN [3]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RX MEDLINE=22386257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Schetz T.E.,
RA Brownstein M.J., Usetin T.B., Toshlyuk S., Carrinci P., Prange C.,
RA Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulik S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettelman W., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butlerfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
RA Schnerch A., Schein J.F., Jones S.J.M., Merra M.A.,
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences."
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [4]
RP PROTEIN SEQUENCE OF 24-53.
RX MEDLINE=98087498; PubMed=9425112;
RA Nyman T.A., Toeloe H., Parkkinen J., Kalkkinen N.;
RT "Identification of nine interferon-alpha subtypes produced by Sendai
RT virus-induced human peripheral blood leucocytes."
RL Biochem. J. 329:295-302(1998).
CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
CC activities. Interferon stimulates the production of two enzymes: a
CC protein kinase and an oligoadenylate synthetase.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC EMBL; V00551; CAA23812.1; -; mRNA.
CC EMBL; BC069409; AAH69409.1; -; mRNA.
CC PIR; A60937; IVH0A5.
CC HSSP; P01563; IITF.
CC SMR; P01566; 24-189.
CC Ensembl; ENSG00000186803; Homo sapiens.
CC HGNC; HGNC:5418; IFNA10.

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DR MIM; 147577; -
DR GO; GO:0005576; C:extracellular region; NAS.
DR GO; GO:0005112; F:interferon-alpha/beta receptor binding; ISS.
DR GO; GO:0009615; P:response to virus; ISS.
DR InterPro; IPR000471; Interferon abd.
DR PANTHER; PTHR11691; Interferon abd; 1.
DR Pfam; PF00143; Interferon; 1.
DR PRINTS; PR00266; INTERFERONAB.
DR PRODOM; PD000550; Interferon_abd; 1.
DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
DR Antiviral defense; Cytochrome; Direct protein sequencing;
KW Multigene family; signal.
FT SIGNAL 1 23
FT CHAIN 24 189 Interferon alpha-10.
FT DISULFID 24 122 By similarity.
FT DISULFID 52 162 By similarity.
SQ SEQUENCE 189 AA; 21835 MW; CEC680996FDA706B CRC64;

Query Match 95.4%; Score 917; DB 1; Length 189;
Best Local Similarity 95.2%; Pred. No. 2.8e-71;
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLVSYSCISGLGCDLPQTHSLGNRRALITLLAOMGRISPFSCLDNRHDFG 60
DB 1 MALSFSLMAVLVSYSCISGLGCDLPQTHSLGNRRALITLLAOMGRISPFSCLDNRHDFR 60
QY 61 LPQEPDGNQFOKQAISVLHEMIQOTFNLFTSDSSAAWQSILKEFSTELYOOLNMLE 120
DB 61 LPQEPDGNQFOKQAISVLHEMIQOTFNLFTSDSSAAWQSILKEFSTELYOOLNMLE 120
QY 121 ACVIOEVMETPLMNEDSLILAVKRYFORITLYTEKKYSCAMVYRAEIMRSLSFSTN 180
DB 121 ACVIOEVMETPLMNEDSLILAVKRYFORITLYTEKKYSCAMVYRAEIMRSLSFSTN 180
QY 181 LQKLRKRD 189
DB 181 LQKLRKRD 189

RESULT 6
ID OSV13_HUMAN PRELIMINARY; PRT; 189 AA.
OSV13_HUMAN
AC OSV13_2005 (Tremblrel. 29, Created)
DT 01-FEB-2005 (Tremblrel. 29, Last sequence update)
DT 01-FEB-2005 (Tremblrel. 29, Last annotation update)
DE Interferon, alpha 10.
GN Name=IFNA10; ORFNames=RP11-1P8.9-001;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
OC Homo.
NCBI_TaxID=9606;
RX NUCLEOTIDE SEQUENCE.
RA Pelan S.;
RL Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: secreted (by similarity).
EMBL; AL512606; CAH71191.1; -; Genomic_DNA.
DR SMR; OSV13; 24-189.
DR GO; GO:0005576; C:extracellular region; IEA.
DR GO; GO:0005112; F:hematopoietin/interferon-c1aas (D200-domain. . .); IEA.
DR InterPro; IPR000471; Interferon_abd.
DR Pfam; PF00143; Interferon; 1.
DR PRINTS; PR00266; INTERFERONAB.
DR SMART; SM00076; IFABD; 1.
DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW Antiviral defense; Cytochrome.
SQ SEQUENCE 189 AA; 21835 MW; CEC680996FDA706B CRC64;

Query Match 95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.2%; Pred. No. 2.8e-71;

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Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLVSYSCISGLGCDLPQTHSLGNRRALITLLAOMGRISPFSCLDNRHDFG 60
DB 1 MALSFSLMAVLVSYSCISGLGCDLPQTHSLGNRRALITLLAOMGRISPFSCLDNRHDFR 60
QY 61 LPQEPDGNQFOKQAISVLHEMIQOTFNLFTSDSSAAWQSILKEFSTELYOOLNMLE 120
DB 61 LPQEPDGNQFOKQAISVLHEMIQOTFNLFTSDSSAAWQSILKEFSTELYOOLNMLE 120
QY 121 ACVIOEVMETPLMNEDSLILAVKRYFORITLYTEKKYSCAMVYRAEIMRSLSFSTN 180
DB 121 ACVIOEVMETPLMNEDSLILAVKRYFORITLYTEKKYSCAMVYRAEIMRSLSFSTN 180
QY 181 LQKLRKRD 189
DB 181 LQKLRKRD 189

RESULT 7
ID IFNA7_HUMAN STANDARD; PRT; 189 AA.
IFNA7_HUMAN
AC P01567; Q14607;
DT 21-JUN-1986 (Rel. 01, Created)
DT 21-JUN-1986 (Rel. 01, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Interferon alpha-7 precursor (Interferon alpha-J1) (IFN-alpha-J1)
DE (Interferon alpha-J) (leif J).
GN Name=IFNA7;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
OC Homo.
NCBI_TaxID=9606;
RX NUCLEOTIDE SEQUENCE.
RA Henco K., Brosius J., Fujisawa A., Fujisawa J.-I., Haynes J.R.,
RA Hochstadt J., Kovacic T., Paek M., Schumbeck A., Schmid J.,
RA Todokoro K., Waelchli M., Nagata S., Weissmann C.;
RT "Structural relationship of human interferon alpha genes and
RT pseudogenes.";
RL J. Mol. Biol. 185:227-260(1985).
[2]
RX NUCLEOTIDE SEQUENCE.
RA Ullrich A., Gray A., Goeddel D.V., Dull T.J.;
RL "Nucleotide sequence of a portion of human chromosome 9 containing a
RL leukocyte interferon gene cluster.";
RL J. Mol. Biol. 156:467-486(1982).
[3]
RX NUCLEOTIDE SEQUENCE.
RA MEDLINE=86005847; PubMed=2995168;
RA Cohen S., Velan B., Grosfeld H., Shalita Z., Leitner M.,
RA Shaffer A.;
RT "Cloning, expression and biological activity of a new variant of human
RT interferon alpha identified in virus induced lymphoblastoid cells.";
RL Dev. Biol. Stand. 60:111-122(1985).
[4]
RX NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RA MEDLINE=22386257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold B.A., Grouse L.H., Berge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.W., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stepien M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.B.,
RA Brownstein M.J., Ustin T.B., Toshylyki S., Carninci P., Prange C.,
RA Rana S.S., Loquellano N.A., Peters G.J., Adamson R.D., Mullany S.J.,
RA Bosnak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulik S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

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DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Interferon alpha-21 precursor (Interferon alpha-F) (leif F).  
 GN Name=IFNA21;  
 OS Homo sapiens (human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;  
 OC Homo.  
 NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=9148795; PubMed=6163083;  
 RA Goeddel D.V., Leung D.W., Dull T.J., Gross M., Lawn R.M.,  
 RT "The structure of eight distinct cloned human leukocyte interferon  
 CDNA's."  
 RL Nature 290:20-26(1981).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Vansore I.V., Dishler A.V., Pudova N.V., Smorodintsev A.A.,  
 RA Tsvlev V.I., Stepanov A.N., Feldman G.Y., Meldeits Y.A., Lozha V.P.,  
 RA Kavan V.M., Elimov V.A., Sverdlov E.D.;  
 RT "A new type of leukocytic interferon."  
 RL Dokl. Biochem. 269:91-95(1983).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].  
 RX MEDLINE=2238625; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares W.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Ueda T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Raha S.S., Loughlan N.A., Peters G.J., Abramson R.D., Mullaly S.J.,  
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Holys S.W.,  
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,  
 RA Whitting R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Blakeley R.C., Grimwood J., Schmutz J., Myers R.M.,  
 RA Rodriguez A.C., Greenwood J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Skalski S., Smalls D.E.,  
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 and mouse cDNA sequences."  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [4]  
 RP PROTEIN SEQUENCE OF 24-58.  
 RX MEDLINE=98087498; PubMed=9425112;  
 RA Nyman T.A., Toeloe H., Parkkinen J., Kalkkinen N.,  
 RT "Identification of nine interferon-alpha subtypes produced by Sendai  
 virus-induced human peripheral blood leucocytes."  
 RL Biochem. J. 329:295-302(1998).  
 RN [5]  
 RP ABSENCE OF POLYMORPHISM.  
 RX MEDLINE=97067358; PubMed=8910771;  
 RA Hussein M., Gill D.S., Liao M.-J.;  
 RT "Identification of interferon-alpha 7, -alpha 14, and -alpha 21  
 variants in the genome of a large human population."  
 RL J. Interferon Cytokine Res. 16:853-859(1996).  
 CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral  
 CC activities. Interferon stimulates the production of two enzymes: a  
 CC protein kinase and an oligoadenylate synthetase.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.  
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 CC between the Swiss Institute of Bioinformatics and the EMBL outstation-  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.

DR EMBL: ML2350; AAAS2718.1; -; mRNA.  
 DR EMBL: V00540; CAA23801.1; -; mRNA.  
 DR EMBL: X00145; CAA24980.1; -; mRNA.  
 DR EMBL: BC069329; AAH69329.1; -; mRNA.  
 DR EMBL: BC069372; AAH69372.1; -; mRNA.  
 DR EMBL: BC069408; AAH69408.1; -; mRNA.  
 DR PIR: A01832; IYHU.F.  
 DR PIR: 184464; I84464.  
 DR HSSP: P01563; 1ITP.  
 DR SMR: P01568; 24-189.  
 DR EMBL: ENSG00000137080; Homo sapiens.  
 DR HGNC: HGNC:5424; IFNA21.  
 DR MIM: 147584; -.  
 DR GO: GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; TAS.  
 DR InterPro: IPR000471; Interferon abd.  
 DR PANTHER: PTHR11591; Interferon\_abd; 1.  
 DR Pfam: PF00143; Interferon; 1.  
 DR PRINTS: PR00266; INTERFERONAB.  
 DR PRODOM: PD000550; Interferon\_abd; 1.  
 DR PROSITE: PS00252; INTERFERON\_A\_B\_D; 1.  
 KW Antiviral defense; Cytokine; Direct protein sequencing;  
 KW Multigene family; Signal.  
 FT SIGNAL 1 23  
 FT CHAIN 24 189 Interferon alpha-21.  
 FT DISULFID 24 122 By similarity.  
 FT DISULFID 52 162 By similarity.  
 FT CONFLICT 119 119 L -> M (in Ref. 1).  
 SQ SEQUENCE 189 AA; 21741 MM; F0B6C9C392905802 CRC64;  
 Query Match 90.7%; Score 872; DB 1; Length 189;  
 Best Local Similarity 91.0%; Pred. No. 2.2e-67;  
 Matches 172; Conservative 6; Mismatches 11; Indels 0; Gaps 0;  
 QY 1 MALSFSILMAVLYLSYSSISGCDLPQTHSLGNRRLLIILAQGRISPSGCLDRHDFG 60  
 DB 1 MALSFSILMAVLYLSYSSISGCDLPQTHSLGNRRLLIILAQGRISPSGCLDRHDFG 60  
 QY 1 LPOEFPGNFOFKQAISVLEHMIQTFNLFSTEDSSAAWESLLEKFTSLYQQLNLE 120  
 DB 61 FPOEFPGNFOFKQAISVLEHMIQTFNLFSTEDSSAAWESLLEKFTSLYQQLNLE 120  
 QY 121 ACVIOEVMGETPLMNDISILAIVKRYFORITLYTEKKYSPCAWEVVAEIMRSLSPSTN 180  
 DB 121 ACVIOEVMGETPLMNDISILAIVKRYFORITLYTEKKYSPCAWEVVAEIMRSLSPSTN 180  
 QY 181 LQKLRKRD 189  
 DB 181 LQKLRKRD 189  
 QY 181 FOERLRKE 189  
 DB 181 FOERLRKE 189  
 RESULT 10  
 Q5VMD1\_HUMAN PRELIMINARY; PRT; 189 AA.  
 ID Q5VMD1\_HUMAN PRELIMINARY; PRT; 189 AA.  
 AC Q5VMD1;  
 DT 01-FEB-2005 (TREMBlrel. 29, Created)  
 DT 01-FEB-2005 (TREMBlrel. 29, Last sequence update)  
 DT 13-SEP-2005 (TREMBlrel. 31, Last annotation update)  
 DS Interferon, alpha 21.  
 GN Name=IFNA21; ORFNames=RP11-113D19.8-001;  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;  
 OC Homo.  
 NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Martin S.;  
 RL Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RC TISSUE=PCR rescued clones;  
 RX MEDLINE=2238625; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg H., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan B., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Ditchenko L., Marnusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stappleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Rask S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,  
 RA Bosak S.A., McGowan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalón D.K., Muzny D.M., Sodergren E.U., Lu X., Gibbs R.A.,  
 RA Fahey J., Helton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whitting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
 RA Butlerfield Y.S.N., Krzywinski M.I., Skalski U., Smallos D.E.,  
 RA Schnerch A., Schein J.E., Jones S.J.W., Marra M.A.,  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences." ;  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE.  
 RC TISSUE=PCR rescued clones;  
 RG NIH MGC Project;  
 RL Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).  
 DR EMBL; AL390882; CAH70157.1; -; Genomic\_DNA.  
 DR EMBL; BC096699; AAH96699.1; -; mRNA.  
 DR SMR; OSWMD1; 24-189.  
 DR Ensembl; ENSG00000137080; Homo sapiens.  
 DR GO; GO:0005576; C:extracellular region; IEA.  
 DR GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.  
 DR GO; GO:0006952; P:defense response; IEA.  
 DR InterPro; IPR000471; Interferon\_abd.  
 DR Pfam; PF00143; Interferon; 1.  
 DR PRINTS; PR00266; INTERFERONAB.  
 DR SMART; SM00076; IFabd; 1.  
 DR PROSITE; PS00252; INTERFERON\_A\_B\_D; 1.  
 DR Antiviral defense; Cytokine.  
 KW SEQUENCE 189 AA; 21741 MW; F0B6C9C392905802 CRC64;

Query Match 90.7%; Score 872; DB 2; Length 189;  
 Best Local Similarity 91.0%; Pred. No. 2.2e-67;  
 Matches 172; Conservative 6; Mismatches 11; Indels 0; Gaps 0;  
 QY 1 MALSPILMAVLVSYKSGICGCDLPQTHSIGNRRAILILAQMGRISPFSCLDKRDHDFG 60  
 DB 1 MALSPILMAVLVSYKSGICGCDLPQTHSIGNRRAILILAQMGRISPFSCLDKRDHDFG 60  
 QY 61 LPOEFDNQOFQKTOAISVLHEMIQOTFNLFSTEDSSAWEQSLEKSTELYOQLNLE 120  
 DB 61 FPOEFDNQOFQKTOAISVLHEMIQOTFNLFSTEDSSAWEQSLEKSTELYOQLNLE 120  
 QY 121 ACVIOEVMESTPLMNEISILAARKYFORITLYLTEKYSFPCAMEVVAEIMRSISFSTN 180  
 DB 121 ACVIOEVMESTPLMNEISILAARKYFORITLYLTEKYSFPCAMEVVAEIMRSISFSTN 180  
 QY 181 LOKIRRKD 189  
 DB 181 FQERLRKE 189

RESULT 11  
 Q14608 HUMAN PRELIMINARY; PRT; 181 AA.  
 AC Q14608;  
 DT 01-NOV-1996 (TRENBLREL. 01; Created)  
 DT 01-NOV-1996 (TRENBLREL. 01; Last sequence update)  
 DT 01-MAR-2004 (TRENBLREL. 26; Last annotation update)  
 DE Leukocyte interferon-alpha.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;  
 OC Homo.

OX NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=85056523; PubMed=6548765;  
 RA Green E., Berrin V.M., Jansone I., Tsimanis A., Vishnevsky Y.,  
 RT "Novel human leukocyte interferon subtype and structural comparison of  
 RT alpha interferon genes." ;  
 RL J Interferon Res. 4:609-617 (1984).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RX PubMed=3803589;  
 RA Ohara O., Teraoka H.;  
 RT "Anomalous behavior of human leukocyte interferon subtypes on  
 RT polyacrylamide gel electrophoresis in the presence of dodecyl  
 RT sulfate." ;  
 RL FEBS Lett. 211:78-82 (1987).  
 CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).  
 DR EMBL; M28586; AAA36041.1; -; mRNA.  
 DR PIR; E25843; E25843.  
 DR PIR; I56313; I56313.  
 DR HSPD; P01563; I1TF.  
 DR SMR; Q14608; 16-181.  
 DR GO; GO:0005615; C:extracellular space; IEA.  
 DR GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.  
 DR GO; GO:0006952; P:response to virus; IEA.  
 DR InterPro; IPR000471; Interferon\_abd.  
 DR Pfam; PF00143; Interferon; 1.  
 DR PRINTS; PR00266; INTERFERONAB.  
 DR PRODOM; PD000550; Interferon\_abd; 1.  
 DR SMART; SM00076; IFabd; 1.  
 DR PROSITE; PS00252; INTERFERON\_A\_B\_D; 1.  
 KW Antiviral defense; Cytokine.  
 SQ SEQUENCE 181 AA; 20878 MW; 3DB45120764EBABC CRC64;

Query Match 87.1%; Score 837; DB 2; Length 181;  
 Best Local Similarity 90.6%; Pred. No. 2.2e-64;  
 Matches 164; Conservative 6; Mismatches 11; Indels 0; Gaps 0;  
 QY 9 MAVIVLSYKSGICGCDLPQTHSIGNRRAILILAQMGRISPFSCLDKRDHDFGLPOEERFDG 68  
 DB 1 MAVIVLSYKSGICGCDLPQTHSIGNRRAILILAQMGRISPFSCLDKRDHDFGLPOEERFDG 68  
 QY 69 NQPKQTAISVLHEMIQOTFNLFSTEDSSAWEQSLEKSTELYOQLNLEACVIOEVG 128  
 DB 61 NQPKQTAISVLHEMIQOTFNLFSTEDSSAWEQSLEKSTELYOQLNLEACVIOEVG 120  
 QY 129 MEETPLMNEISILAARKYFORITLYLTEKYSFPCAMEVVAEIMRSISFSTNLOKILRRK 188  
 DB 121 VEETPLMNEISILAARKYFORITLYLTEKYSFPCAMEVVAEIMRSISFSTNLOKILRRK 180  
 QY 189 D 189  
 DB 181 E 181

RESULT 12  
 IFN16\_HUMAN STANDARD; PRT; 189 AA.  
 AC P05015;  
 DT 13-AUG-1987 (Rel. 05; Created)  
 DT 13-AUG-1987 (Rel. 05; Last sequence update)  
 DT 10-MAY-2005 (Rel. 47; Last annotation update)  
 DE Interferon alpha-16 precursor (Interferon alpha-WA).  
 GN Name=IFNA16;  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;  
 OC Homo.  
 OC NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.

XX	MEDLINE=86037205; PubMed=4057246;
RA	Henco K., Brosius J., Fujisawa A., Fujisawa J.-I., Haynes J.R.,
RA	Hochstadt J., Kovacic T., Paek M., Schamboeck A., Schmid J.,
RA	Todooro K., Waelchli M., Nagata S., Weismann C.;
RT	"Structural relationship of human interferon alpha genes and
RT	pseudogenes";
RL	J. Mol. Biol. 165:227-260(1985).
RN	[2]
RP	NUCLEOTIDE SEQUENCE.
RX	MEDLINE=85036533; PubMed=6387705;
RA	Toczyński R.M., Fuke M., Bollon A.P.;
RT	"Human genomic library screened with 17-base oligonucleotide probes
RT	yields a novel interferon gene";
RL	Proc. Natl. Acad. Sci. U.S.A. 81:6451-6455(1984).
RN	[3]
RP	NUCLEOTIDE SEQUENCE.
RX	MEDLINE=85056523; PubMed=6548765;
RA	Green E., Berrin V.M., Jansone I., Tsimanis A., Viehnevsky Y.,
RA	Apalons U.;
RT	"Novel human leukocyte interferon subtype and structural comparison of
RT	alpha interferon genes.";
RL	J. Interferon Res. 4:609-617(1984).
CC	-1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
CC	activities. Interferon stimulates the production of two enzymes: a
CC	protein kinase and an oligoadenylate synthetase.
CC	-1- SUBCELLULAR LOCATION: Secreted.
CC	-1- SIMILARITY: Belongs to the alpha/beta interferon family.
CC	-----
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CC	between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC	use as long as its content is in no way modified and this statement is not
CC	removed.
CC	-----
DR	EMBL; X02957; CAA26703.1; -; Genomic DNA.
DR	EMBL; K02055; AAS2727.1; -; Genomic DNA.
DR	EMBL; M28585; AAA36042.1; -; mRNA.
DR	PIR; G23753; IVHUI6.
DR	HSSP; P01563; IITF.
DR	SMR; P05015; 24-189.
DR	HGNC; HGNC:5421; IFNA16.
DR	MIM; 147580; -
DR	GO; GO:0005133; F:interferon-alpha/beta receptor binding; TAS.
DR	InterPro; IPR00471; Interferon abd.
DR	PANTHER; PTHR11691; Interferon abd; 1.
DR	Pfam; PF00143; Interferon; 1.
DR	PRINTS; PR00266; INTERFERONAB.
DR	PRODOM; PP000550; Interferon abd; 1.
DR	PROSITE; PS00252; INTERFERON_A_B_D; 1.
FW	Antiviral defense; Cytokine; Multigene family; Signal.
FT	ANIMAL 1 23
FT	CHAIN 24 189 Interferon alpha-16.
FT	DISULFID 24 122 By similarity.
FT	DISULFID 52 162 By similarity.
SO	SEQUENCE 189 AA; 21711 MW; FC8822F787F1585F CRC64;
QY	Query Match 87.1%; Score 837; DB 1; Length 189;
QY	Best Local Similarity 87.3%; Pred. No. 2,3e-64;
QY	Matches 165; Conservative 9; Mismatches 15; Indels 0; Gaps 0
DB	1 MALSLLMAVILVYSKISICSGCDLPQTHSIGNRRAILLAQGRISHPSCDKRHDG 60
DB	1 MALSLLMAVILVYSKISICSGCDLPQTHSIGNRRAILLAQGRISHPSCDKRHDG 60
QY	1 LPRFEDDNOPOKQTAISVLEHMIQOTFVLPTEDSSAAWESLSLEKSTELYYQNLNLE 120
QY	1 LPRFEDDNOPOKQTAISVLEHMIQOTFVLPTEDSSAAWESLSLEKSTELYYQNLNLE 120
DB	61 PPOEVFDGQPKKAAIAPHEHMIQOTFVLPTEDSSAAWESLSLEKSTELYYQNLNLE 120
QY	121 ACVIEVGMEIEPLANNEDSIIAVKRYFORITLYLLEKYSKPCAMWEVVAEIMRSLSFSTN 180
QY	121 ACVIEVGMEIEPLANNEDSIIAVKRYFORITLYLLEKYSKPCAMWEVVAEIMRSLSFSTN 180
DB	121 ACVIEVGMEIEPLANNEDSIIAVKRYFORITLYLLEKYSKPCAMWEVVAEIMRSLSFSTN 180
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Db	181	LQKGLRRKD	189
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DB	1	MAISFSLIMAVLTVSYKSCISGCDLPQTHSLGNRRALLILAQMGRI	60
QY	61	LPQEPDGNQFOKTAISVILHEMIQOTFNLFTSDSSAAWESLLEKFTSL	120
DB	61	LPQEPDGNQFOKTAISVILHEMIQOTFNLFTSDSSAAWEDTLKFKYIEL	120
QY	121	ACVIOEVGMEETPLMNEBSIIAVKRYQRIITLITLTKKYSACAEVYRAE	180
DB	121	ACVIOEVGMEETPLMNEBSIIAVKRYQRIITLITLTKKYSACAEVYRAE	180
QY	181	LQKGLRRKD	189
DB	181	LQKGLRRKD	189

```

RA Yansone I.V., Dishler A.V., Pudova N.V., Smorodintsev A.A.,
RA Iovlev V.I., Stepanov A.N., Feldman G.Y., Meldrais Y.A., Lozha V.P.,
RA Kaysan V.M., Efimov V.A., Sverdlov E.D.;
RT "A new type of leukocytic interferon.";
RL Dokl. Biochem. 269:91-95(1983).
CC -1- SUBCELLULAR LOCATION: Secreted (by similarity).
DR EMBL; X00140; CAA24970.1; -, mRNA.
DR PIR; I37584; I37584.
DR HSSP; P01563; IITF.
DR SMR; Q14618; 24-189.
DR GO; GO:0005576; C:extracellular region; IEA.
DR GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .); IEA.
DR GO; GO:0006952; P:defense response; IEA.
DR InterPro; IPR000471; Interferon_abd.
DR Pfam; PF00143; Interferon; 1.
DR PRINTS; PR00266; INTERFERONAB.
DR ProDom; PD000550; Interferon_abd; 1.
DR SMART; SM00076; Ifabd; 1.
DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW Antiviral defense; Cytokine.
SQ SEQUENCE 189 AA; 21810 MW; E6D8D9E726E04344 CRC64;

Query Match 86.0%; Score 826; DB 2; Length 189;
Best Local Similarity 86.2%; Pred. No. 2.1e-63;
Matches 163; Conservative 9; Mismatches 17; Indels 0; Gaps 0;

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DB 61 PPOEFDPGQFOKQAIASAFHEMIQOTENLPSTKSSAAMETLLDKYIELFQGLNDLE 120
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DB 121 ACVIOEVGMETPLMNEISILAAKRYFORITLYLMGKYSFCAWEVVAETIMRSFSTN 180
OY 181 LOKIIRKRD 189
DB 181 LOKIIRKRD 189

RESULT 15
IFNA5 HUMAN STANDARD; PRT; 189 AA.
AC P01563;
DT 21-JUL-1986 (Rel. 01, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Interferon alpha-5 precursor (Interferon alpha-G) (leif G) (Interferon
DE alpha-61)
GN Name=IFNA5;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86037205; PubMed=4057246;
RA Henco K., Brosius J., Fujisawa A., Fujisawa J.-I., Haynes J.R.,
RA Hochstadt J., Kovacic T., Pasek M., Schamboeck A., Schmid J.,
RA Todokoro K., Maelichi M., Nagata S., Weissmann C.;
RT "Structural relationship of human interferon alpha genes and
RT pseudogenes.";
RL J. Mol. Biol. 185:227-260(1985).
RN [2]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=15164053; DOI=10.1038/nature02465;
RA Humphray S.J., Oliver K., Hunt A.R., Plumb R.W., Loveland J.E.,
RA Howe K.L., Andrews T.D., Searle S., Hunt S.E., Scott C.E., Jones M.C.,
RA Ainscough R., Almeida J.P., Ambrose K.D., Ashwell R.I.S.,

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RA Babbage A.K., Babbage S., Baguley C.L., Bailey J., Banerjee R.,
RA Barker D.J., Barlow K.F., Bates K., Beasley H., Beasley O., Bird C.P.,
RA Bray-Alten S., Brown A.J., Brown J.Y., Burford D., Burrill M.,
RA Burton J., Calder C., Carter N.P., Chapman J.C., Chen Y., Clarke G.,
RA Clark S.Y., Clee C.M., Clegg S., Collier R.E., Cobby N., Crosier M.,
RA Cummings A.T., Davies J., Dhani P., Dunn M., Dutta I., Dyer L.W.,
RA Earthrowl M.E., Faulkner L., Fleming C.J., Frankish A.,
RA Frankland J.A., French L., Fricker D.G., Garner P., Garnett J.,
RA Griffiths C., Griffiths-Jones S., Grocock R., Guy J., Hall R.E.,
RA Hammond S., Harley J.L., Harrison E.S.I., Hart E.A., Heath P.D.,
RA Henderson C.D., Hopkins B.L., Howard P.J., Howden P.J., Huckle E.,
RA Johnson C., Johnson D., Joy A.A., Kay M., Keenan S., Kershaw J.K.,
RA Kaylor S., Leongamornlert D.A., Laversha M., Lloyd C., Lloyd D.M.,
RA Lovell J., Martin S., Mashreghi-Mohammadi M., Matthews L., McLaren S.,
RA Mcclay K.E., McMurtry A., Milne S., Nickerson T., Nisbett J.,
RA Nordstok G., Pearce A.V., Peck A.I., Porter K.M., Pandian R.,
RA Pelan S., Phillimore B., Povey S., Ramsey Y., Rand V., Scharfe M.,
RA Sehra H.K., Showbreck R., Sims S.K., Skuce C.D., Smith M.,
RA Steward C.A., Swarbreck D., Sycamore N., Tester J., Thorpe A.,
RA Tracey A., Tromans A., Thomas D.W., Wall M., Wallis J.W., West A.P.,
RA Whitehead S.L., Willey D.L., Williams S.A., Wilming L., Wray P.W.,
RA Young L., Ashurst J.L., Coulson A., Blocker H., Durbin R.,
RA Sulston J.E., Hubbard T., Jackson M.J., Bentley D.R., Beck S.,
RA Rogers J., Dunham I.;
RT "DNA sequence and analysis of human chromosome 9.";
RL Nature 429:369-374(2004).
RN [3]
RP NUCLEOTIDE SEQUENCE OF 57-189.
RC TISSUE=Spleen;
RX MEDLINE=81148795; PubMed=6163083;
RA Goeddel D.V., Leung D.W., Dull T.J., Gross M., Lawn R.M.,
RA McCandlish R., Seeburg P.H., Ulrich A., Yelverton E., Gray P.W.;
RT "The structure of eight distinct cloned human leukocyte interferon
RT cDNAs.";
RL Nature 290:20-26(1981).
RN [4]
RP PROTEIN SEQUENCE OF 22-36.
RX PubMed=15340161; DOI=10.1110/ps.04682504;
RA Zhang Z., Henzel W.J.;
RT "Signal peptide prediction based on analysis of experimentally
RT verified cleavage sites.";
RL Protein Sci. 13:2819-2824(2004).
CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
CC activities. Interferon stimulates the production of two enzymes: a
CC protein kinase and an oligoadenylate synthetase.
CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC EMBL; X02956; CAA26702.1; -, Genomic DNA.
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CC PIR; S43716; IVHUA7.
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CC HGNC; HGNC:5426; IFNA5.
CC MIM; 147565; -.
CC GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .); TAS.
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CC Pfam; PF00143; Interferon; 1.
CC PRINTS; PR00266; INTERFERONAB.
CC ProDom; PD000550; Interferon_abd; 1.
CC PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW Antiviral defense; Cytokine; Direct protein sequencing;

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FT	CHARN	22	189		
FT	DISULFID	24	122		
FT	DISULFID	52	162		
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Query Match 82.1; Score 82.1; DB 1; length 189;  
Best Local Similarity 83.5%; Pred. No. 5.7e-63;  
Matches 156; Conservative 18; Mismatches 15; Gaps 0;

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Qy 181 LOKILRKD 189
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GenCore version 5.1.6  
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OM protein - protein search, using sw model1

Run on: December 15, 2005, 13:34:25 ; Search time 167 Seconds

(Without alignments)  
472.873 Million cell updates/sec

Title: US-10-691-653-2

Perfect score: 961  
Sequence: 1 MALSFSLIMAVLVLSYKIC.....EIMRSISFTNLQKILRRKD 189

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database :

Published Applications AA Main:\*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	961	100.0	189	4	US-10-284-740-10
2	961	100.0	189	4	US-10-691-653-2
3	961	100.0	189	4	US-10-676-705-13
4	961	100.0	189	4	US-10-677-093-13
5	961	100.0	189	5	US-10-820-467-13
6	929	96.7	189	4	US-10-415-969-42
7	921	95.8	189	4	US-10-415-969-44
8	921	95.8	189	4	US-10-757-511-3
9	919	95.6	189	4	US-10-415-969-50
10	919	95.6	189	4	US-10-676-705-4
11	919	95.6	189	4	US-10-677-093-4
12	919	95.6	189	5	US-10-820-467-4
13	917	95.4	189	3	US-09-881-050-22
14	917	95.4	189	3	US-09-881-050-28
15	917	95.4	189	4	US-10-676-705-9
16	917	95.4	189	4	US-10-677-093-9
17	917	95.4	189	5	US-10-820-467-9
18	915	95.2	189	4	US-10-415-969-52
19	913	95.0	189	4	US-10-415-969-56
20	911	94.8	189	3	US-09-908-594-7
21	911	94.8	189	5	US-10-197-816-7
22	910	94.7	189	4	US-10-415-969-54
23	909	94.6	189	4	US-10-415-969-38
24	909	94.6	189	4	US-10-415-969-70
25	892	92.8	189	4	US-10-676-705-7
26	892	92.8	189	4	US-10-677-093-7
27	892	92.8	189	5	US-10-820-467-7

28	882	91.8	189	3	US-09-881-050-19	Sequence 19, Appl
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31	870	90.5	189	3	US-09-881-050-23	Sequence 23, Appl
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33	870	90.5	189	4	US-10-415-969-64	Sequence 64, Appl
34	870	90.5	189	4	US-10-673-886A-2	Sequence 2, Appl
35	870	90.5	189	4	US-10-676-705-14	Sequence 14, Appl
36	870	90.5	189	4	US-10-677-093-14	Sequence 14, Appl
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39	867	90.2	189	4	US-10-415-969-72	Sequence 72, Appl
40	854	88.9	166	3	US-09-977-034-18	Sequence 18, Appl
41	854	88.9	166	4	US-10-658-834A-191	Sequence 191, Appl
42	854	88.9	166	5	US-10-714-817-41	Sequence 41, Appl
43	854	88.9	166	5	US-10-953-259-18	Sequence 18, Appl
44	854	88.9	166	5	US-10-820-467-43	Sequence 43, Appl
45	844	87.8	166	3	US-09-559-671A-77	Sequence 77, Appl

#### ALIGNMENTS

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RESULT 1
US-10-284-740-10
; Sequence 10, Application US/10284740
; Publication No. US20030138404A1
; GENERAL INFORMATION:
; APPLICANT: Maroun, Leonard E.
; TITLE OF INVENTION: INTERFERON ANTAGONISTS USEFUL FOR THE TREATMENT OF INTERFERON REL
; FILE REFERENCE: 18448/2002
; CURRENT APPLICATION NUMBER: US/10/284, 740
; CURRENT FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: US 09/845, 260
; PRIOR FILING DATE: 2001-04-30
; PRIOR APPLICATION NUMBER: US 09/067, 398
; PRIOR FILING DATE: 1998-04-28
; PRIOR APPLICATION NUMBER: US 08/502, 519
; PRIOR FILING DATE: 1995-07-14
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 10
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
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RESULT 2
US-10-691-653-2
; Sequence 2, Application US/10691653
; Publication No. US20040110715A1
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GENERAL INFORMATION:  
APPLICANT: Escary, Jean-Louis  
TITLE OF INVENTION: New polynucleotides and polypeptides of the IFNa-17 gene  
FILE REFERENCE: 607/11.000024  
CURRENT APPLICATION NUMBER: US/10/691,653  
PRIOR APPLICATION NUMBER: 2003-10-24  
PRIOR FILING DATE: 2001-04-24  
PRIOR APPLICATION NUMBER: FR 0105516  
PRIOR FILING DATE: 2002-04-23  
PRIOR APPLICATION NUMBER: PCT/EP02/05229  
PRIOR FILING DATE: 2002-04-23  
NUMBER OF SEQ ID NOS: 5  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 2  
LENGTH: 189  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-691-653-2

Query Match 100.0%; Score 961; DB 4; Length 189;  
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RESULT 3  
US-10-676-705-13  
Sequence 13, Application US/10676705  
Publication No. US20040137581A1  
GENERAL INFORMATION:  
APPLICANT: Aguinado, Anna Marie  
APPLICANT: Beyna, Amelia Joy  
APPLICANT: Cho, Ho Sung  
APPLICANT: Desjarlais, John Rudolph  
APPLICANT: Marshall, Shannon Alicia  
APPLICANT: Muchhal, Umesh  
APPLICANT: Villegas, Michael Francis Aquino  
APPLICANT: Zhukovsky, Eugene  
TITLE OF INVENTION: INTERFERON VARIANTS WITH IMPROVED PROPERTIES  
FILE REFERENCE: A-71431-3  
CURRENT APPLICATION NUMBER: US/10/676,705  
CURRENT FILING DATE: 2003-09-30  
PRIOR APPLICATION NUMBER: US 60/489,725  
PRIOR FILING DATE: 2003-07-24  
PRIOR APPLICATION NUMBER: US 60/477,246  
PRIOR FILING DATE: 2003-06-10  
PRIOR APPLICATION NUMBER: US 60/415,541  
PRIOR FILING DATE: 2002-10-01  
NUMBER OF SEQ ID NOS: 90  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 13  
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TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-676-705-13

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Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
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RESULT 4  
US-10-677-093-13  
Sequence 13, Application US/10677093  
Publication No. US20040175359A1  
GENERAL INFORMATION:  
APPLICANT: Desjarlais, John Rudolf  
APPLICANT: Marshall, Shannon Alicia  
APPLICANT: Mo, Yirong  
APPLICANT: Thomson, Adam Read  
TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR  
FILE REFERENCE: 33604/US/1  
CURRENT APPLICATION NUMBER: US/10/677,093  
CURRENT FILING DATE: 2003-09-30  
PRIOR APPLICATION NUMBER: 60/425,851  
PRIOR FILING DATE: 2002-11-12  
NUMBER OF SEQ ID NOS: 54  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 13  
LENGTH: 189  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-677-093-13

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RESULT 5  
US-10-820-467-13  
Sequence 13, Application US/10820467  
Publication No. US20050054053A1  
GENERAL INFORMATION:  
APPLICANT: Aguinado, Anna Marie  
APPLICANT: Beyna, Amelia Joy  
APPLICANT: Cho, Ho Sung  
APPLICANT: Desjarlais, John Rudolph

```

; APPLICANT: Marshall, Shannon Alicia
; APPLICANT: Muchhal, Umesh
; APPLICANT: Villegas, Michael Francis Aquino
; APPLICANT: Zhukovsky, Eugene
; APPLICANT: Quesenberry, Michael Stephen
; TITLE OF INVENTION: INTERFERON VARIANTS WITH IMPROVED PROPERTIES
; FILE REFERENCE: A-71431-4
; CURRENT APPLICATION NUMBER: US/10/820,467
; CURRENT FILING DATE: 2004-03-30
; PRIOR APPLICATION NUMBER: US 60/477,246
; PRIOR FILING DATE: 2003-06-10
; PRIOR APPLICATION NUMBER: US 60/415,541
; PRIOR FILING DATE: 2002-10-01
; PRIOR APPLICATION NUMBER: US 60/489,725
; PRIOR FILING DATE: 2003-07-24
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US-10-820-467-13

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Db 181 LQKILRRKD 189

RESULT 6
US-10-415-969-42
; Sequence 42, Application US/10415969
; Publication No. US20040105841A1
; GENERAL INFORMATION:
; APPLICANT: PBL BIOMEDICAL LABORATORIES
; TITLE OF INVENTION: INTERFERONS, USES AND COMPOSITIONS THEREO
; FILE REFERENCE: PBLI-PWO-012
; CURRENT APPLICATION NUMBER: US/10/415,969
; CURRENT FILING DATE: 2003-05-02
; PRIOR APPLICATION NUMBER: 60/245754
; PRIOR FILING DATE: 2000-11-03
; PRIOR APPLICATION NUMBER: 60/246234
; PRIOR FILING DATE: 2000-11-03
; NUMBER OF SEQ ID NOS: 86
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 42
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-415-969-42

Query Match          96.7%; Score 929; DB 4; Length 189;
Best Local Similarity 96.3%; Pred. No. 1.3e-86;
Matches 182; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

Qy 1 MALSFSLMAVLVLSYKISGCDLPQTHSLGNRRALILLQMGRIISPFSCLDKDRHDFG 60
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|||||
Db 1 MALSFSLMAVLVLSYKISGCDLPQTHSLGNRRALILLQMGRIISPFSCLDKDRHDFR 60
Qy 61 LPOEFPGNPOFOKTAISVLHEMIQOTFNLFTSDSSAAMEQSLEKSTELVQQLNMLE 120
Db 61 LPOEFPGNPOFOKTAISVLHEMIQOTFNLFTSDSSAAMEQSLEKSTELVQQLNMLE 120

Qy 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKYSFCAMEVYRAEIMRSLSFSTN 180
Db 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKYSFCAMEVYRAEIMRSLSFSTN 180

Qy 181 LQKILRRKD 189
Db 181 LQKILRRKD 189

RESULT 7
US-10-415-969-44
; Sequence 44, Application US/10415969
; Publication No. US20040105841A1
; GENERAL INFORMATION:
; APPLICANT: PBL BIOMEDICAL LABORATORIES
; TITLE OF INVENTION: INTERFERONS, USES AND COMPOSITIONS THEREO
; FILE REFERENCE: PBLI-PWO-012
; CURRENT APPLICATION NUMBER: US/10/415,969
; CURRENT FILING DATE: 2003-05-02
; PRIOR APPLICATION NUMBER: 60/245754
; PRIOR FILING DATE: 2000-11-03
; PRIOR APPLICATION NUMBER: 60/246234
; PRIOR FILING DATE: 2000-11-03
; NUMBER OF SEQ ID NOS: 86
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 44
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-415-969-44

Query Match          95.8%; Score 921; DB 4; Length 189;
Best Local Similarity 95.8%; Pred. No. 8.5e-86;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

Qy 1 MALSFSLMAVLVLSYKISGCDLPQTHSLGNRRALILLQMGRIISPFSCLDKDRHDFG 60
Db 1 MALSFSLMAVLVLSYKISGCDLPQTHSLGNRRALILLQMGRIISPFSCLDKDRHDFR 60

Qy 61 LPOEFPGNPOFOKTAISVLHEMIQOTFNLFTSDSSAAMEQSLEKSTELVQQLNMLE 120
Db 61 LPOEFPGNPOFOKTAISVLHEMIQOTFNLFTSDSSAAMEQSLEKSTELVQQLNMLE 120

Qy 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKYSFCAMEVYRAEIMRSLSFSTN 180
Db 121 ACVIOEVMGEETPLMNEDSLIAVRKYFORITLYLTEKYSFCAMEVYRAEIMRSLSFSTN 180

Qy 181 LQKILRRKD 189
Db 181 LQKILRRKD 189

RESULT 8
US-10-757-511-3
; Sequence 3, Application US/10757511
; Publication No. US20040137009A1
; GENERAL INFORMATION:
; APPLICANT: KOJIMA, SHIN-ICHI
; APPLICANT: ASAKURA, AKIRA
; APPLICANT: FUTATSUGI, TETSUAKI
; APPLICANT: OTA, YUKO
; APPLICANT: FUKUDA, YUKI
; APPLICANT: SAGARA, SHINSUKE
; TITLE OF INVENTION: NOVEL INTERFERON-ALPHA
; FILE REFERENCE: O65369
; CURRENT APPLICATION NUMBER: US/10/757,511
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; CURRENT FILING DATE: 2004-01-15  
; PRIOR APPLICATION NUMBER: US/09/889,035  
; PRIOR FILING DATE: 2001-07-11  
; PRIOR APPLICATION NUMBER: JP 11-5138  
; PRIOR FILING DATE: 1999-01-12  
; NUMBER OF SEQ ID NOS: 7  
; SEQ ID NO 3  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-757-511-3

Query Match 95.8%; Score 921; DB 4; Length 189;  
Best Local Similarity 95.8%; Pred. No. 8.5e-86;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYSYKISICSLGCDLPOTHSIGNRRALILLAOMGRISPFSCLDKDRHDFG 60  
DB 1 MALSFSLMAVLYSYKISICSLGCDLPOTHSIGNRRALILLAOMGRISPFSCLDKDRHDFR 60  
QY 61 LPOEFDFGNQFOKQAISVLHEMIQOTFNLFSTEDSSAAMBOSILEKSTELYOQLNMLE 120  
DB 61 LPOEFDFGNQFOKQAISVLHEMIQOTFNLFSTEDSSAAMBOSILEKSTELYOQLNMLE 120  
QY 121 ACVIOEVGMEETPLMNEEDSILAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVGMEETPLMNEEDSILAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTN 180  
QY 181 LQKLRKRD 189  
DB 181 LQKLRKRD 189

RESULT 9  
US-10-415-969-50  
; Sequence 50, Application US/10415969  
; Publication No. US20040105841A1  
; GENERAL INFORMATION:  
; APPLICANT: PBL BIOMEDICAL LABORATORIES  
; TITLE OF INVENTION: INTERFERONS, USES AND COMPOSITIONS THEREOF  
; FILE REFERENCE: PBLI-PMO-012  
; CURRENT APPLICATION NUMBER: US/10/415,969  
; CURRENT FILING DATE: 2003-05-02  
; PRIOR APPLICATION NUMBER: 60/245754  
; PRIOR FILING DATE: 2000-11-03  
; PRIOR APPLICATION NUMBER: 60/246234  
; PRIOR FILING DATE: 2000-11-03  
; NUMBER OF SEQ ID NOS: 86  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 50  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-415-969-50

Query Match 95.6%; Score 919; DB 4; Length 189;  
Best Local Similarity 95.8%; Pred. No. 1.4e-85;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYSYKISICSLGCDLPOTHSIGNRRALILLAOMGRISPFSCLDKDRHDFG 60  
DB 1 MALSFSLMAVLYSYKISICSLGCDLPOTHSIGNRRALILLAOMGRISHFSCLDKDRHDFG 60  
QY 61 LPOEFDFGNQFOKQAISVLHEMIQOTFNLFSTEDSSAAMBOSILEKSTELYOQLNMLE 120  
DB 61 LPOEFDFGNQFOKQAISVLHEMIQOTFNLFSTEDSSAAMBOSILEKSTELYOQLNMLE 120  
QY 121 ACVIOEVGMEETPLMNEEDSILAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVGMEETPLMNEEDSILAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTN 180  
QY 181 LQKLRKRD 189  
DB 181 LQKLRKRD 189

DB 181 LQKLRKRD 189  
RESULT 10  
US-10-676-705-4  
; Sequence 4, Application US/10676705  
; Publication No. US20040137581A1  
; GENERAL INFORMATION:  
; APPLICANT: Aginaldo, Anna Marie  
; APPLICANT: Beyna, Amelia Joy  
; APPLICANT: Cho, Ho Sung  
; APPLICANT: Desjarlais, John Rudolph  
; APPLICANT: Marshall, Shannon Alicia  
; APPLICANT: Muchhal, Umesh  
; APPLICANT: Villegas, Michael Francis Aquino  
; APPLICANT: Zhukovsky, Eugene  
; TITLE OF INVENTION: INTERFERON VARIANTS WITH IMPROVED PROPERTIES  
; FILE REFERENCE: A-71431-3  
; CURRENT APPLICATION NUMBER: US/10/676,705  
; CURRENT FILING DATE: 2003-09-30  
; PRIOR APPLICATION NUMBER: US 60/489,725  
; PRIOR FILING DATE: 2003-07-24  
; PRIOR APPLICATION NUMBER: US 60/477,246  
; PRIOR FILING DATE: 2003-06-10  
; PRIOR APPLICATION NUMBER: US 60/415,541  
; PRIOR FILING DATE: 2002-10-01  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 4  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-676-705-4

Query Match 95.6%; Score 919; DB 4; Length 189;  
Best Local Similarity 95.8%; Pred. No. 1.4e-85;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYSYKISICSLGCDLPOTHSIGNRRALILLAOMGRISPFSCLDKDRHDFG 60  
DB 1 MALSFSLMAVLYSYKISICSLGCDLPOTHSIGNRRALILLAOMGRISHFSCLDKDRHDFG 60  
QY 61 LPOEFDFGNQFOKQAISVLHEMIQOTFNLFSTEDSSAAMBOSILEKSTELYOQLNMLE 120  
DB 61 LPOEFDFGNQFOKQAISVLHEMIQOTFNLFSTEDSSAAMBOSILEKSTELYOQLNMLE 120  
QY 121 ACVIOEVGMEETPLMNEEDSILAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVGMEETPLMNEEDSILAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTN 180  
QY 181 LQKLRKRD 189  
DB 181 LQKLRKRD 189

RESULT 11  
US-10-677-093-4  
; Sequence 4, Application US/10677093  
; Publication No. US20040175359A1  
; GENERAL INFORMATION:  
; APPLICANT: Desjarlais, John Rudolf  
; APPLICANT: Marshall, Shannon Alicia  
; APPLICANT: Mo, Yirong  
; APPLICANT: Thomson, Adam Read  
; TITLE OF INVENTION: NOVEL PROTEINS WITH ANTI-VIRAL, ANTINEOPLASTIC, AND/OR  
; FILE REFERENCE: 33604/US/1  
; CURRENT APPLICATION NUMBER: US/10/677,093  
; CURRENT FILING DATE: 2003-09-30  
; PRIOR APPLICATION NUMBER: 60/425,851  
; PRIOR FILING DATE: 2002-11-12  
; NUMBER OF SEQ ID NOS: 54  
; SOFTWARE: PatentIn version 3.2

SEQ ID NO 4  
LENGTH: 189  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-677-093-4

Query Match 95.6%; Score 919; DB 4; Length 189;  
Best Local Similarity 95.8%; Pred. No. 1.4e-85;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLMAVIVLSYKISGCDLPQTHSLGNRRALILIAQGRISPFSCLDNRHDFG 60  
DB 1 MALSFSLMAVIVLSYKISGCDLPQTHSLGNRRALILIAQGRISPFSCLDNRHDFG 60  
QY 61 LPQEPFGNQFOKQOASVLEHMIQOTFNLSTEDSSAAWQSLLEKSTELYYOQNLNLE 120  
DB 61 PPEEPFQHQFOKAQASVLEHMIQOTFNLSTEDSSAAWQSLLEKSTELYYOQNLNLE 120  
QY 121 ACVIOEVGMETPLMNEDSLIAVRKYFORITLVLTCKYSPCAMEVYRAEIMRSLSFSTN 180  
DB 121 ACVIOEVGMETPLMNEDSLIAVRKYFORITLVLTCKYSPCAMEVYRAEIMRSLSFSTN 180  
QY 181 LQKLRKRD 189  
DB 181 LQKLRKRD 189

RESULT 12  
US-10-820-467-4  
Sequence 4, Application US/10820467  
Publication No. US20050054053h1  
GENERAL INFORMATION:  
APPLICANT: Aguinaldo, Anna Marie  
APPLICANT: Beyna, Amelia Joy  
APPLICANT: Cho, Ho Sung  
APPLICANT: Desjarlais, John Rudolph  
APPLICANT: Marshall, Shannon Alicia  
APPLICANT: Muchhal, Umesh  
APPLICANT: Villagas, Michael Francis Aquino  
APPLICANT: Zhukovsky, Eugene  
APPLICANT: Queenberry, Michael Stephen  
TITLE OF INVENTION: INTERFERON VARIANTS WITH IMPROVED PROPERTIES  
FILE REFERENCE: A-71431-4  
CURRENT APPLICATION NUMBER: US/10/820,467  
CURRENT FILING DATE: 2004-03-30  
PRIOR APPLICATION NUMBER: US 60/477,246  
PRIOR FILING DATE: 2003-06-10  
PRIOR APPLICATION NUMBER: US 60/415,541  
PRIOR FILING DATE: 2002-10-01  
PRIOR APPLICATION NUMBER: US 60/489,725  
PRIOR FILING DATE: 2003-07-24  
PRIOR APPLICATION NUMBER: US 10/676,705  
PRIOR FILING DATE: 2003-09-30  
NUMBER OF SEQ ID NOS: 274  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 4  
LENGTH: 189  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-820-467-4

Query Match 95.6%; Score 919; DB 5; Length 189;  
Best Local Similarity 95.8%; Pred. No. 1.4e-85;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;  
QY 1 MALSFSLMAVIVLSYKISGCDLPQTHSLGNRRALILIAQGRISPFSCLDNRHDFG 60  
DB 1 MALSFSLMAVIVLSYKISGCDLPQTHSLGNRRALILIAQGRISPFSCLDNRHDFG 60  
QY 61 LPQEPFGNQFOKQOASVLEHMIQOTFNLSTEDSSAAWQSLLEKSTELYYOQNLNLE 120  
DB 61 PPEEPFQHQFOKAQASVLEHMIQOTFNLSTEDSSAAWQSLLEKSTELYYOQNLNLE 120

QY 121 ACVIOEVGMETPLMNEDSLIAVRKYFORITLVLTCKYSPCAMEVYRAEIMRSLSFSTN 180  
DB 121 ACVIOEVGMETPLMNEDSLIAVRKYFORITLVLTCKYSPCAMEVYRAEIMRSLSFSTN 180  
QY 181 LQKLRKRD 189  
DB 181 LQKLRKRD 189

RESULT 13  
US-09-881-050-22  
Sequence 22, Application US/09881050  
Publication No. US20020025304A1  
GENERAL INFORMATION:  
APPLICANT: CROZE, EDWARD M.  
APPLICANT: FAUDS, DARYL  
APPLICANT: WAGNER, T. CHARIS  
TITLE OF INVENTION: NOVEL INTERFERON FOR THE TREATMENT OF MULTIPLE  
FILE REFERENCE: BERLX-88  
CURRENT APPLICATION NUMBER: US/09/881,050  
CURRENT FILING DATE: 2001-06-15  
PRIOR APPLICATION NUMBER: 60/212,046  
PRIOR FILING DATE: 2000-06-16  
NUMBER OF SEQ ID NOS: 30  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 22  
LENGTH: 189  
TYPE: PRT  
ORGANISM: Unknown Organism  
FEATURE:  
OTHER INFORMATION: Description of Unknown Organism: Irfna1phaab amino  
US-09-881-050-22

Query Match 95.4%; Score 917; DB 3; Length 189;  
Best Local Similarity 95.8%; Pred. No. 2.2e-85;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLMAVIVLSYKISGCDLPQTHSLGNRRALILIAQGRISPFSCLDNRHDFG 60  
DB 1 MALSFSLMAVIVLSYKISGCDLPQTHSLGNRRALILIAQGRISPFSCLDNRHDFG 60  
QY 61 LPQEPFGNQFOKQOASVLEHMIQOTFNLSTEDSSAAWQSLLEKSTELYYOQNLNLE 120  
DB 61 PPEEPFQHQFOKQOASVLEHMIQOTFNLSTEDSSAAWQSLLEKSTELYYOQNLNLE 120  
QY 121 ACVIOEVGMETPLMNEDSLIAVRKYFORITLVLTCKYSPCAMEVYRAEIMRSLSFSTN 180  
DB 121 ACVIOEVGMETPLMNEDSLIAVRKYFORITLVLTCKYSPCAMEVYRAEIMRSLSFSTN 180  
QY 181 LQKLRKRD 189  
DB 181 LQKLRKRD 189

RESULT 14  
US-09-881-050-28  
Sequence 28, Application US/09881050  
Publication No. US20020025304A1  
GENERAL INFORMATION:  
APPLICANT: CROZE, EDWARD M.  
APPLICANT: FAUDS, DARYL  
APPLICANT: WAGNER, T. CHARIS  
TITLE OF INVENTION: NOVEL INTERFERON FOR THE TREATMENT OF MULTIPLE  
FILE REFERENCE: BERLX-88  
CURRENT APPLICATION NUMBER: US/09/881,050  
CURRENT FILING DATE: 2001-06-15  
PRIOR APPLICATION NUMBER: 60/212,046  
PRIOR FILING DATE: 2000-06-16  
NUMBER OF SEQ ID NOS: 30  
SOFTWARE: PatentIn Ver. 2.1

; SEQ ID NO 28  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Unknown Organism  
; FEATURE:  
; OTHER INFORMATION: Description of Unknown Organism: IFNalpha0 amino  
; OTHER INFORMATION: acid sequence  
US-09-881-050-28

Query Match 95.4%; Score 917; DB 3; Length 189;  
Best Local Similarity 95.2%; Pred. No. 2.2e-85;  
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

Oy 1 MALSFSLMAVYLVSYSKISGCDLPQTHSGNRRALILLAQMGRI SPFSC LKDRHDFG 60  
Db 1 MALSFSLMAVYLVSYSKISGCDLPQTHSGNRRALILLAQMGRI SPFSC LKDRHDFR 60  
Oy 61 LPOEFDDGNOFQKTAISVLHEMIQTPTNLFSTEDSSAAMEQSLEKSTEL YQQLNDLE 120  
Db 61 LPOEFDDGNOFQKTAISVLHEMIQTPTNLFSTEDSSAAMEQSLEKSTEL YQQLNDLE 120  
Oy 121 ACVIOEVMGEETPLMNEBSILA VRKYFORITLYL TEKKYSPCAMEVVR AEIMRSLSFSTN 180  
Db 121 ACVIOEVMGEETPLMNEBSILA VRKYFORITLYL TEKKYSPCAMEVVR AEIMRSLSFSTN 180  
Oy 181 LQKILRRKD 189  
Db 181 LQKILRRKD 189

## RESULT 15

US-10-676-705-9  
; Sequence 9. Application US/10676705  
; Publication No. US20040137581A1  
; GENERAL INFORMATION:  
; APPLICANT: Aguinaldo, Anna Marie  
; APPLICANT: Beyna, Amelia Joy  
; APPLICANT: Cho, Ho Sung  
; APPLICANT: Desjarlais, John Rudolph  
; APPLICANT: Marshall, Shannon Alicia  
; APPLICANT: Muchhal, Umesh  
; APPLICANT: Villegas, Michael Francis Aquino  
; APPLICANT: Zhukovsky, Eugene  
; TITLE OF INVENTION: INTERPERON VARIANTS WITH IMPROVED PROPERTIES  
; FILE REFERENCE: A-71431-3  
; CURRENT APPLICATION NUMBER: US/10/676,705  
; CURRENT FILING DATE: 2003-09-30  
; PRIOR APPLICATION NUMBER: US 60/489,725  
; PRIOR FILING DATE: 2003-07-24  
; PRIOR APPLICATION NUMBER: US 60/477,246  
; PRIOR FILING DATE: 2003-06-10  
; PRIOR APPLICATION NUMBER: US 60/415,541  
; PRIOR FILING DATE: 2002-10-01  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 9  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-676-705-9

Query Match 95.4%; Score 917; DB 4; Length 189;  
Best Local Similarity 95.2%; Pred. No. 2.2e-85;  
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

Oy 1 MALSFSLMAVYLVSYSKISGCDLPQTHSGNRRALILLAQMGRI SPFSC LKDRHDFG 60  
Db 1 MALSFSLMAVYLVSYSKISGCDLPQTHSGNRRALILLAQMGRI SPFSC LKDRHDFR 60  
Oy 61 LPOEFDDGNOFQKTAISVLHEMIQTPTNLFSTEDSSAAMEQSLEKSTEL YQQLNDLE 120  
Db 61 LPOEFDDGNOFQKTAISVLHEMIQTPTNLFSTEDSSAAMEQSLEKSTEL YQQLNDLE 120

Oy 121 ACVIOEVMGEETPLMNEBSILA VRKYFORITLYL TEKKYSPCAMEVVR AEIMRSLSFSTN 180  
Db 121 ACVIOEVMGEETPLMNEBSILA VRKYFORITLYL TEKKYSPCAMEVVR AEIMRSLSFSTN 180  
Oy 181 LQKILRRKD 189  
Db 181 LQKILRRKD 189

Search completed: December 15, 2005, 13:42:58  
Job time : 168 secs

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OM protein - protein search, using sw model

Run on: December 15, 2005, 13:31:14 ; Search time 12 Seconds  
(without alignments)  
106.073 Million cell updates/sec

Title: US-10-691-653-2

Perfect score: 1 MALSPSLMVLVSTYSIC.....EIMSLSFSTNOKILRRKD 189

Sequence: 1 MALSPSLMVLVSTYSIC.....EIMSLSFSTNOKILRRKD 189

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 51463 seqs, 6734788 residues

Total number of hits satisfying chosen parameters: 51463

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA New:

- 1: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep.\*
- 2: /cgn2\_6/ptodata/2/pubpaa/US07\_NEW\_PUB.pep.\*
- 3: /cgn2\_6/ptodata/2/pubpaa/US08\_NEW\_PUB.pep.\*
- 4: /cgn2\_6/ptodata/2/pubpaa/US09\_NEW\_PUB.pep.\*
- 5: /cgn2\_6/ptodata/2/pubpaa/US10\_NEW\_PUB.pep.\*
- 6: /cgn2\_6/ptodata/2/pubpaa/US11\_NEW\_PUB.pep.\*
- 7: /cgn2\_6/ptodata/2/pubpaa/US12\_NEW\_PUB.pep.\*
- 8: /cgn2\_6/ptodata/2/pubpaa/US60\_NEW\_PUB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	854	88.9	166	US-11-132-722-56	Sequence 56, Appl
2	810	84.3	166	US-11-132-722-46	Sequence 48, Appl
3	810	84.3	166	US-11-132-722-53	Sequence 53, Appl
4	785	81.7	166	US-11-132-722-51	Sequence 51, Appl
5	777	80.9	167	US-11-132-722-58	Sequence 58, Appl
6	770.5	80.2	415	US-11-029-003-12	Sequence 12, Appl
7	770.5	80.2	423	US-11-029-003-10	Sequence 10, Appl
8	770.5	80.2	430	US-11-029-003-22	Sequence 22, Appl
9	770.5	80.2	669	US-11-053-100-39	Sequence 39, Appl
10	765	79.6	166	US-11-132-722-57	Sequence 57, Appl
11	743	77.3	166	US-11-132-722-49	Sequence 49, Appl
12	736	76.6	166	US-11-132-722-54	Sequence 54, Appl
13	730	76.0	166	US-11-132-722-44	Sequence 44, Appl
14	726	75.5	166	US-11-132-722-55	Sequence 55, Appl
15	724	75.3	166	US-11-132-722-36	Sequence 36, Appl
16	724	75.3	166	US-11-132-722-32	Sequence 32, Appl
17	724	75.3	166	US-11-132-722-37	Sequence 37, Appl
18	720	74.9	166	US-11-132-722-43	Sequence 43, Appl
19	720	74.9	166	US-11-132-722-5	Sequence 5, Appl
20	719	74.8	166	US-11-132-722-41	Sequence 41, Appl
21	718	74.7	166	US-11-132-722-40	Sequence 40, Appl
22	718	74.7	166	US-11-132-722-33	Sequence 33, Appl
23	717	74.6	166	US-11-132-722-42	Sequence 42, Appl
24	716	74.5	166	US-11-132-722-3	Sequence 3, Appl
25	716	74.5	166	US-11-132-722-35	Sequence 35, Appl

26	715	74.4	166	US-11-132-722-6	Sequence 6, Appl
27	712	74.1	166	US-11-132-722-30	Sequence 30, Appl
28	712	74.1	166	US-11-132-722-31	Sequence 31, Appl
29	711	74.0	166	US-11-132-722-4	Sequence 4, Appl
30	711	74.0	166	US-11-132-722-29	Sequence 29, Appl
31	710	73.9	166	US-11-132-722-17	Sequence 17, Appl
32	710	73.9	166	US-11-132-722-39	Sequence 39, Appl
33	709	73.8	166	US-11-132-722-8	Sequence 8, Appl
34	707	73.6	166	US-11-132-722-9	Sequence 9, Appl
35	707	73.6	166	US-11-132-722-16	Sequence 16, Appl
36	707	73.6	166	US-11-132-722-34	Sequence 34, Appl
37	705	73.4	166	US-11-132-722-2	Sequence 2, Appl
38	705	73.4	166	US-11-132-722-21	Sequence 21, Appl
39	705	73.4	166	US-11-132-722-28	Sequence 28, Appl
40	704	73.3	166	US-11-132-722-1	Sequence 1, Appl
41	704	73.3	166	US-11-132-722-12	Sequence 12, Appl
42	704	73.3	166	US-11-132-722-38	Sequence 38, Appl
43	703	73.2	166	US-11-132-722-19	Sequence 19, Appl
44	702	73.0	166	US-11-132-722-15	Sequence 15, Appl
45	701	72.9	166	US-11-132-722-11	Sequence 11, Appl

## ALIGNMENTS

```

RESULT 1
US-11-132-722-56
; Sequence 56, Application US/11132722
; Publication No. US20050266465A1
; GENERAL INFORMATION:
; APPLICANT: Patten, Phillip A., et al.
; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND
; FILE REFERENCE: 0280.310US
; CURRENT FILING DATE: 2005-05-18
; PRIOR APPLICATION NUMBER: US 60/572,504
; PRIOR FILING DATE: 2004-05-19
; NUMBER OF SEQ ID NOS: 90
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 56
; LENGTH: 166
; TYPE: PRT
; ORGANISM: homo sapiens
US-11-132-722-56

Query Match      88.9%; Score 854; DB 7; Length 166;
Best Local Similarity 100.0%; Pred. No. 3.8e-76;
Matches 166; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      24 CDLPQTHSLGNRRALLILAQMGRIISPSCLKDRHDFGLPQEPFGNQFOKQATISVHEM 83
      |||
DB      1 CDLPQTHSLGNRRALLILAQMGRIISPSCLKDRHDFGLPQEPFGNQFOKQATISVHEM 60

QY      84 IOQFNLFSTEDSSAANWQSLLEKSTELYQQLNNLEACVQOEVGMETPLMNEISILAV 143
      |||
DB      61 IOQFNLFSTEDSSAANWQSLLEKSTELYQQLNNLEACVQOEVGMETPLMNEISILAV 120

QY      144 RKYQRTILVLTETKYSFCAMEVVRABIMRSLSFTNLOKILRRKD 189
      |||
DB      121 RKYQRTILVLTETKYSFCAMEVVRABIMRSLSFTNLOKILRRKD 166

RESULT 2
US-11-132-722-48
; Sequence 48, Application US/11132722
; Publication No. US20050266465A1
; GENERAL INFORMATION:
; APPLICANT: Patten, Phillip A., et al.
; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND
; FILE REFERENCE: 0280.310US
; CURRENT FILING DATE: 2005-05-18
; PRIOR APPLICATION NUMBER: US 60/572,504
; PRIOR FILING DATE: 2004-05-19
; NUMBER OF SEQ ID NOS: 90
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 56
; LENGTH: 166
; TYPE: PRT
; ORGANISM: homo sapiens
US-11-132-722-48

```

;; CURRENT FILING DATE: 2005-05-18  
;; PRIOR APPLICATION NUMBER: US 60/572,504  
;; PRIOR FILING DATE: 2004-05-19  
;; NUMBER OF SEQ ID NOS: 90  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 48  
;; LENGTH: 166  
;; TYPE: PRT  
;; ORGANISM: homo sapiens  
US-11-132-722-48

Query Match 84.3%; Score 810; DB 7; Length 166;  
Best Local Similarity 95.2%; Pred. No. 6.9e-72;  
Matches 158; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 24 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 83  
DB 1 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 60  
QY 84 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 143  
DB 61 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 166

RESULT 3  
US-11-132-722-53  
;; Sequence 53, Application US/11132722  
;; Publication No. US20050266465A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Patcen, Phillip A., et al.  
;; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
;; FILE REFERENCE: 0280.310US  
;; CURRENT APPLICATION NUMBER: US/11/132,722  
;; CURRENT FILING DATE: 2005-05-18  
;; PRIOR APPLICATION NUMBER: US 60/572,504  
;; PRIOR FILING DATE: 2004-05-19  
;; NUMBER OF SEQ ID NOS: 90  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 53  
;; LENGTH: 166  
;; TYPE: PRT  
;; ORGANISM: homo sapiens  
US-11-132-722-53

Query Match 84.3%; Score 810; DB 7; Length 166;  
Best Local Similarity 94.6%; Pred. No. 6.9e-72;  
Matches 157; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 24 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 83  
DB 1 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 60  
QY 84 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 143  
DB 61 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 166

RESULT 4  
US-11-132-722-51  
;; Sequence 51, Application US/11132722  
;; Publication No. US20050266465A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Patcen, Phillip A., et al.  
;; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
5

;; TITLE OF INVENTION: CONJUGATES  
;; FILE REFERENCE: 0280.310US  
;; PRIOR APPLICATION NUMBER: US/11/132,722  
;; CURRENT FILING DATE: 2005-05-18  
;; PRIOR APPLICATION NUMBER: US 60/572,504  
;; PRIOR FILING DATE: 2004-05-19  
;; NUMBER OF SEQ ID NOS: 90  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 51  
;; LENGTH: 166  
;; TYPE: PRT  
;; ORGANISM: homo sapiens  
US-11-132-722-51

Query Match 81.7%; Score 785; DB 7; Length 166;  
Best Local Similarity 92.2%; Pred. No. 1.8e-69;  
Matches 153; Conservative 6; Mismatches 7; Indels 0; Gaps 0;

QY 24 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 83  
DB 1 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 60  
QY 84 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 143  
DB 61 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 166

RESULT 5  
US-11-132-722-58  
;; Sequence 58, Application US/11132722  
;; Publication No. US20050266465A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Patcen, Phillip A., et al.  
;; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
;; FILE REFERENCE: 0280.310US  
;; CURRENT APPLICATION NUMBER: US/11/132,722  
;; CURRENT FILING DATE: 2005-05-18  
;; PRIOR APPLICATION NUMBER: US 60/572,504  
;; PRIOR FILING DATE: 2004-05-19  
;; NUMBER OF SEQ ID NOS: 90  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 58  
;; LENGTH: 167  
;; TYPE: PRT  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Synthetic Construct IFN-alpha Conl  
US-11-132-722-58

Query Match 80.9%; Score 777; DB 7; Length 167;  
Best Local Similarity 90.4%; Pred. No. 1.1e-68;  
Matches 150; Conservative 8; Mismatches 8; Indels 0; Gaps 0;

QY 24 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 83  
DB 2 CDLPQTHSLGNRRALILIAQWGRISPFSCDKDRHDFGLPOEEFDGNOFOKQAISVLHEM 61  
QY 84 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 143  
DB 62 IQQTFNLSTEDSSAAMEQSLEKSTELYQQLNNLEACVIOEVGMETPLMNEDSLILAV 121  
QY 144 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 189  
DB 122 RKYFORITLYLTKKYSPCAMEVVAEIMRSLSFSTNLQKILRRKD 167

RESULT 6  
US-11-029-003-12

```
; Sequence 12. Application US/11029003
; Publication No. US20050260194A1
; GENERAL INFORMATION:
; APPLICANT: PETERS, ROBERT T.
; APPLICANT: MEZO, ADAM R.
; APPLICANT: RIVERA, DANIEL S.
; APPLICANT: BITONTI, ALAN J.
; APPLICANT: STRATTEL, JAMES
; TITLE OF INVENTION: IMMUNOGLOBULIN CHIMERIC MONOMER-DIMER HYBRIDS
; FILE REFERENCE: 08945.0007-01000
; CURRENT APPLICATION NUMBER: US/11/029,003
; PRIOR FILING DATE: 2005-01-05
; PRIOR APPLICATION NUMBER: 60/539,207
; PRIOR FILING DATE: 2004-01-26
; PRIOR APPLICATION NUMBER: 60/487,964
; PRIOR FILING DATE: 2003-07-17
; PRIOR APPLICATION NUMBER: 60/469,600
; PRIOR FILING DATE: 2003-05-06
; NUMBER OF SEQ ID NOS: 91
; SOFTWARE: Patentin Ver. 3.2
; SEQ ID NO 12
; LENGTH: 415
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: construct
US-11-029-003-12
```

```
Query Match      80.2%; Score 770.5; DB 7; Length 415;
Best Local Similarity 80.4%; Pred. No. 1.5e-67;
Matches 152; Conservative 17; Mismatches 19; Indels 1; Gaps 1;
```

```
Qy      1 MALSFSLMAVLYSYKISGLGCDLPQTHSLGNRRALILIAQNGRISPFSCDKDRHDFG 60
      1 MALTFALLVALLVYSSKSSCVGCDLPQTHSLGSRRTLMIAQMRISLFSCLDRHDFG 60
Db
Qy      61 LPQEPDGNQFOKQALSYVHEMIQQTFLNLFSTEDSSAAWQSILKEFSTELYQQLNLE 120
      61 PPOEEF-GNQFOKQETIPVHEMIQQTFLNLFSTEDSSAAWQETLLDKFYTELQQLNDLE 119
Db
Qy      121 ACVIOGVMEETPLMNEDSLIAVRKYFORITLYLTEKYSPCAWEVVAEIMRSLSPSTN 180
      120 ACVIOGVMEETPLMNEDSLIAVRKYFORITLYLTEKYSPCAWEVVAEIMRSLSPSTN 179
Db
Qy      181 LQKILRRKD 189
      180 LQESLSRKE 188
Db
```

```
RESULT 7
US-11-029-003-10
; Sequence 10. Application US/11029003
; Publication No. US20050260194A1
; GENERAL INFORMATION:
; APPLICANT: PETERS, ROBERT T.
; APPLICANT: MEZO, ADAM R.
; APPLICANT: RIVERA, DANIEL S.
; APPLICANT: BITONTI, ALAN J.
; APPLICANT: STRATTEL, JAMES
; TITLE OF INVENTION: IMMUNOGLOBULIN CHIMERIC MONOMER-DIMER HYBRIDS
; FILE REFERENCE: 08945.0007-01000
; CURRENT APPLICATION NUMBER: US/11/029,003
; PRIOR FILING DATE: 2005-01-05
; PRIOR APPLICATION NUMBER: 60/539,207
; PRIOR FILING DATE: 2004-01-26
; PRIOR APPLICATION NUMBER: 60/487,964
; PRIOR FILING DATE: 2003-07-17
; PRIOR APPLICATION NUMBER: 60/469,600
; PRIOR FILING DATE: 2003-05-06
; NUMBER OF SEQ ID NOS: 91
; SOFTWARE: Patentin Ver. 3.2
; SEQ ID NO 10
```

```
; LENGTH: 423
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: construct
US-11-029-003-10
```

```
Query Match      80.2%; Score 770.5; DB 7; Length 423;
Best Local Similarity 80.4%; Pred. No. 1.5e-67;
Matches 152; Conservative 17; Mismatches 19; Indels 1; Gaps 1;
```

```
Qy      1 MALSFSLMAVLYSYKISGLGCDLPQTHSLGNRRALILIAQNGRISPFSCDKDRHDFG 60
      1 MALTFALLVALLVYSSKSSCVGCDLPQTHSLGSRRTLMIAQMRISLFSCLDRHDFG 60
Db
Qy      61 LPQEPDGNQFOKQALSYVHEMIQQTFLNLFSTEDSSAAWQSILKEFSTELYQQLNLE 120
      61 PPOEEF-GNQFOKQETIPVHEMIQQTFLNLFSTEDSSAAWQETLLDKFYTELQQLNDLE 119
Db
Qy      121 ACVIOGVMEETPLMNEDSLIAVRKYFORITLYLTEKYSPCAWEVVAEIMRSLSPSTN 180
      120 ACVIOGVMEETPLMNEDSLIAVRKYFORITLYLTEKYSPCAWEVVAEIMRSLSPSTN 179
Db
Qy      181 LQKILRRKD 189
      180 LQESLSRKE 188
Db
```

```
RESULT 8
US-11-029-003-22
; Sequence 22. Application US/11029003
; Publication No. US20050260194A1
; GENERAL INFORMATION:
; APPLICANT: PETERS, ROBERT T.
; APPLICANT: MEZO, ADAM R.
; APPLICANT: RIVERA, DANIEL S.
; APPLICANT: BITONTI, ALAN J.
; APPLICANT: STRATTEL, JAMES
; TITLE OF INVENTION: IMMUNOGLOBULIN CHIMERIC MONOMER-DIMER HYBRIDS
; FILE REFERENCE: 08945.0007-01000
; CURRENT APPLICATION NUMBER: US/11/029,003
; PRIOR FILING DATE: 2005-01-05
; PRIOR APPLICATION NUMBER: 60/539,207
; PRIOR FILING DATE: 2004-01-26
; PRIOR APPLICATION NUMBER: 60/487,964
; PRIOR FILING DATE: 2003-07-17
; PRIOR APPLICATION NUMBER: 60/469,600
; PRIOR FILING DATE: 2003-05-06
; NUMBER OF SEQ ID NOS: 91
; SOFTWARE: Patentin Ver. 3.2
; SEQ ID NO 22
; LENGTH: 430
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: construct
US-11-029-003-22
```

```
Query Match      80.2%; Score 770.5; DB 7; Length 430;
Best Local Similarity 80.4%; Pred. No. 1.6e-67;
Matches 152; Conservative 17; Mismatches 19; Indels 1; Gaps 1;

Qy      1 MALSFSLMAVLYSYKISGLGCDLPQTHSLGNRRALILIAQNGRISPFSCDKDRHDFG 60
      1 MALTFALLVALLVYSSKSSCVGCDLPQTHSLGSRRTLMIAQMRISLFSCLDRHDFG 60
Db
Qy      61 LPQEPDGNQFOKQALSYVHEMIQQTFLNLFSTEDSSAAWQSILKEFSTELYQQLNLE 120
      61 PPOEEF-GNQFOKQETIPVHEMIQQTFLNLFSTEDSSAAWQETLLDKFYTELQQLNDLE 119
Db
Qy      121 ACVIOGVMEETPLMNEDSLIAVRKYFORITLYLTEKYSPCAWEVVAEIMRSLSPSTN 180
```

D <sub>b</sub>	120	ACVIGGVETETLMKEDSILAVRKYFORITYLEKRTSPCAEIVPAEIMRSFSLTN	179
O <sub>y</sub>	181	LOKILRRKD	189
D <sub>b</sub>	180	LOESLSRKE	188

## RESULT 9

```

US-11-053-100-39
Sequence 39, Application US/11053100
Publication No. US2005025554A1
GENERAL INFORMATION:
APPLICANT: CHILKOTI, Ashutosh
TITLE OF INVENTION: FUSION PEPTIDES ISOLATABLE BY PHASE TRANSITION
FILE REFERENCE: 4176-101 CIP
CURRENT APPLICATION NUMBER: US/11/053,100
CURRENT FILING DATE: 2005-02-08
PRIOR APPLICATION NUMBER: US 09/812,382
PRIOR FILING DATE: 2001-03-20
PRIOR APPLICATION NUMBER: US 60/190,659
PRIOR FILING DATE: 2000-03-20
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PatentIn version 3.3
SEQ ID NO 39
LENGTH: 669
TYPE: PRT
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: Synthetic Construct
FEATURE:
NAME/KEY: MISC FEATURE
LOCATION: (1)..(669)
OTHER INFORMATION: pET32a-SDll-ELP1-90-3hrom-Interferon Alpha 2B
US-11-053-100-39

```

Query Match	80.2%	Score 770.5;	DB 7;	Length 669;
Best Local Similarity	80.4%	Pred. No. 2.8e-67;		
Matches 152;	Conservative 17;	Mismatches 19;	Indels 1;	Gaps 1;

Qy	_____	MAISFSLTMAVLYLSTKYSICSGCDLPQTHSLGNNRRALITLAAQGRISLSPESCLXDRHDPG	60
Db	482	MALTFTALVALMALTSKSSCSVGCDDPQTHSLGSRRTIMLLAAQMRRLSLSPCLXDRHDPG	5411
Qy	61	LPOEEFDGNQFOKTOAISVLHEMIQOTFNLFSSTEDSSAAWESQSLLEKSTELYQOANLLE	120
Db	542	FPOEEF-GNQFOAEITLPVLHEMIQOIFLFLSTKSSAAABETLLDKYTELYEQANDLE	6000
Qy	121	ACTYQEVGMEETPLMNEDSLAVRKYFORITLYLTEKKYSFQCAEVYRAEIMRSLSFSTIN	180
Db	601	ACTYQGVGTETPLMNEDSLAVRKYFORITLYLTEKKYSFCAEVYRAEIMRSLSFSTIN	660
Qy	181	LQKILRRKD	189
Db	661	LQESLSRKE	669

RESULT 10  
US-11-132-722-57

Sequence 57, Application US/11132722  
Publication No. US20050266465A1  
GENERAL INFORMATION:  
APPLICANT: Patten, Philip A., et al.  
TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
TITLE OF INVENTION: CONJUGATES  
FILE REFERENCE: 0280.310US  
CURRENT APPLICATION NUMBER: US/11/132,722  
CURRENT FILING DATE: 2005-05-18  
PRIOR APPLICATION NUMBER: US 60/572,504  
PRIOR FILING DATE: 2004-05-19  
NUMBER OF SEQ ID NOS: 90  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 57

```

; LENGTH: 166
; TYPE: PRT
; ORGANISM: homo sapiens
US-11-132-722-57

```

Query Match	79.6%;	Score 765;	DB 7;	Length 166;
Best Local Similarity	89.8%;	Pred. No. 1.6e-67;		
Matches 149;	Conservative 6;	Mismatches 11;	Indels 0;	Gaps 0;

QY	24	DDLPETHSLGNRRALIIILAAQGRISPFSCLDKDRHDFGJPOEFSDGNOFOKTAISVLTHHM	83
Db	1	CDLPETHSLGNRRALIIILAAQGRISPFSCLDKDRHDFGJPOEFSDGNOFOKTAISVLTHHM	60
QY	84	IQQTFNLSTEDSSAAEQSLLEKSTELIYQOALNLBACVIOEYGMSEPTPLNMEDSILAV	143
Db	61	IQQTFNLSTEDSSAAEQSLLEKSTELIYQOALNLBACVIOEYGMSEPTPLNMEDSILAV	120
QY	144	RKYFORITLYLTEKKYSPCAMEVYVAEIMRSLSPSTNLOKIRRKD	189
Db	121	KKYFORITLYLTEKKYSPCAMEVYVAEIMRSLSPSTNLOKIRRKD	166

RESULT 11  
US-11-132-722-49

```

: Sequence 49, Application US/1113722
: Publication No. US20050266465A1
: GENERAL INFORMATION:
: APPLICANT: Pattem, Phillip A., et al.
: TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND
: TITLE OF INVENTION: CONJUGATES
: FILE REFERENCE: 0280.310US
: CURRENT APPLICATION NUMBER: US/11/132,722
: CURRENT FILING DATE: 2005-05-18
: PRIOR APPLICATION NUMBER: US 60/572,504
: PRIOR FILING DATE: 2004-05-19
: NUMBER OF SEQ ID NOS: 90
: SOFTWARE: Pasteq for Windows Version 4.0
: SEQ ID NO 49
:
: LENGTH: 166
: TYPE: PRT
: ORGANISM: homo sapiens
: US-11-132-722-49

```

Query Match	77.3%	Score 743;	DB 7;	Length 166;
Best Local Similarity	83.7%	Pred. No. 2.1e-65;		
Matches 139; Conservative	15;	Mismatches 12;	Indels 0;	Gaps 0;

QY 24 CDLPQTHSLGNRAILLIAQMGRIISPFCIKDRHFGPLQEFDFDGNQPKQTAISVLEHM 83  
::: :  
Db 1 CDLPQTHSLSNRRITLMIAQMGRIISPFCIKDRHFGPQEFDFDGNQPKQTAISVLEHM 60  
84 IQQFNLFTSTEDSSAAWQSLLEKSTSTLYQQANLLEACVIOVGMEEFTPLNEDSILAV 143  
::: :  
QY 61 IQQFNLFTSTEDSSAAWQSLLEKSTSTLYQQANLLEACVIOVGMEEFTPLNEDSILAV 120  
Db 144 RKYRQRTILYLTCKKYSPCAMEVYRAEIMRSLSSTPNLOKILRRKD 189  
QY 121 RKYRQRTILYLTCKKYSPCAMEVYRAEIMRSLSSTPNLOKILRRKE 166

RESULT 12  
US-11-132-722-54

```

: Sequence 54, Application US/1113722
: Publication No US20050266465A1
:
: GENERAL INFORMATION:
:
: APPLICANT: Paten, Philip A., et al.
: TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND
: TITLE OF INVENTION: CONJUGATES
: FILE REFERENCE: 0280.310US
: CURRENT APPLICATION NUMBER: US/11/132,722
: CURRENT FILING DATE: 2005-05-18
: PRIOR APPLICATION NUMBER: US 60/572,504
: PRIOR FILING DATE: 2004-05-19

```

NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 54  
; LENGTH: 166  
; TYPE: PRT  
; ORGANISM: homo sapiens  
US-11-132-722-54

Query Match 76.0%; Score 730; DB 7; Length 166;  
Best Local Similarity 84.9%; Pred. No. 1e-64;  
Matches 141; Conservative 13; Mismatches 12; Indels 0; Gaps 0;

QY 24 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 83  
DB 1 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 60  
QY 84 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 143  
DB 61 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 166

RESULT 13  
US-11-132-722-44  
; Sequence 44, Application US/11132722  
; Publication No. US20050266465A1  
; GENERAL INFORMATION:  
; APPLICANT: Patten, Phillip A., et al.  
; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
; FILE REFERENCE: 0280.310US  
; CURRENT APPLICATION NUMBER: US/11/132,722  
; CURRENT FILING DATE: 2005-05-18  
; PRIOR APPLICATION NUMBER: US 60/572,504  
; PRIOR FILING DATE: 2004-05-19  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 44  
; LENGTH: 166  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Synthetic Construct 25Bp129  
US-11-132-722-44

Query Match 76.0%; Score 730; DB 7; Length 166;  
Best Local Similarity 83.7%; Pred. No. 3.8e-64;  
Matches 139; Conservative 14; Mismatches 13; Indels 0; Gaps 0;

QY 24 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 83  
DB 1 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 60  
QY 84 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 143  
DB 61 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 166

RESULT 14  
US-11-132-722-55  
; Sequence 55, Application US/11132722  
; Publication No. US20050266465A1  
; GENERAL INFORMATION:  
; APPLICANT: Patten, Phillip A., et al.  
; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
; FILE REFERENCE: 0280.310US  
; CURRENT APPLICATION NUMBER: US/11/132,722  
; CURRENT FILING DATE: 2005-05-18  
; PRIOR APPLICATION NUMBER: US 60/572,504  
; PRIOR FILING DATE: 2004-05-19  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 55  
; LENGTH: 166  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Synthetic Construct 25Bp108  
US-11-132-722-55

FILE REFERENCE: 0280.310US  
; CURRENT APPLICATION NUMBER: US/11/132,722  
; CURRENT FILING DATE: 2005-05-18  
; PRIOR APPLICATION NUMBER: US 60/572,504  
; PRIOR FILING DATE: 2004-05-19  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 55  
; LENGTH: 166  
; TYPE: PRT  
; ORGANISM: homo sapiens  
US-11-132-722-55

Query Match 76.0%; Score 730; DB 7; Length 166;  
Best Local Similarity 85.5%; Pred. No. 3.8e-64;  
Matches 142; Conservative 9; Mismatches 15; Indels 0; Gaps 0;

QY 24 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 83  
DB 1 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 60  
QY 84 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 143  
DB 61 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 166

RESULT 15  
US-11-132-722-36  
; Sequence 36, Application US/11132722  
; Publication No. US20050266465A1  
; GENERAL INFORMATION:  
; APPLICANT: Patten, Phillip A., et al.  
; TITLE OF INVENTION: INTERFERON-ALPHA POLYPEPTIDES AND  
; FILE REFERENCE: 0280.310US  
; CURRENT APPLICATION NUMBER: US/11/132,722  
; CURRENT FILING DATE: 2005-05-18  
; PRIOR APPLICATION NUMBER: US 60/572,504  
; PRIOR FILING DATE: 2004-05-19  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 36  
; LENGTH: 166  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Synthetic Construct 25Bp108  
US-11-132-722-36

Query Match 75.5%; Score 726; DB 7; Length 166;  
Best Local Similarity 83.1%; Pred. No. 9.3e-64;  
Matches 138; Conservative 15; Mismatches 13; Indels 0; Gaps 0;

QY 24 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 83  
DB 1 CDPQTHSLGNRRALILIAQMGRISSPSCDKDRHDFGLPOEFPDGNQFOKTOAISVLHEM 60  
QY 84 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 143  
DB 61 IOQTFNLFTSDSSAAMEQSLLEKFTSTELYQOQNNLEACVIOEYGMETPLMNEDSLILAV 120  
QY 144 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 189  
DB 121 RKYFORITLYLTKKYSPCAMEVVRRAIMRSLSFSTNLQKILRKD 166

Search completed: December 15, 2005, 13:40:05  
Job time : 12 secs

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GenCore version 5.1.6  
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 15, 2005, 13:25:59 ; Search time 38 Seconds  
(without alignments)  
478.552 Million cell updates/sec

Title: US-10-691-653-2

Sequence: 1 MALSFSLMAVLVLSYKSLC.....EIMRSLSFSTNLOKILRRKD 189

Scoring table: BLASTSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR 80.\*  
1: p1r1.\*  
2: p1r2.\*  
3: p1r3.\*  
4: p1r4.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	951	99.0	189	1	interferon alpha-1
2	949	98.8	189	2	interferon precurs
3	919	95.6	189	2	interferon alpha-M
4	917	95.4	189	1	interferon alpha-I
5	917	95.4	189	1	interferon alpha-I
6	898	93.4	176	2	interferon alpha-5
7	892	92.8	189	2	interferon alpha-J
8	882	91.8	189	1	interferon alpha-7
9	872	90.7	189	2	interferon alpha-F
10	870	90.5	189	1	interferon alpha-I
11	837	87.1	181	2	interferon alpha-2
12	837	87.1	189	1	interferon alpha-I
13	826	86.0	189	2	interferon alpha-I
14	821	85.4	189	1	interferon alpha-5
15	813	84.6	189	1	interferon alpha-I
16	785	81.7	167	2	interferon alpha-I
17	769	80.0	189	1	interferon alpha-I
18	768	79.9	189	1	interferon alpha-I
19	767.5	79.9	188	1	interferon alpha-2
20	763	79.4	167	2	interferon alpha-F
21	756	78.7	189	1	interferon alpha-I
22	734	76.4	167	2	interferon alpha-I
23	734	76.4	189	1	interferon alpha-4
24	721	75.0	184	1	interferon alpha-I
25	717	74.6	184	1	interferon alpha-I
26	715	74.4	184	1	interferon alpha-I
27	709	73.8	184	1	interferon alpha-I
28	694.5	72.3	165	2	alpha 2 interferon
29	673	70.0	162	2	interferon alpha-B

30	644	67.0	189	2	S23709	interferon alpha-1
31	608	63.3	189	1	IVBO11	interferon alpha-I
32	603	62.7	189	1	IVBO11	interferon alpha-I
33	603	62.7	189	1	IVBO1B	interferon alpha-I
34	603	62.7	189	1	IVBO1D	interferon alpha-I
35	596	62.0	189	1	IVMSA5	interferon alpha-I
36	593	61.7	189	1	IVBO1C	interferon alpha-I
37	593	61.7	190	2	I49774	alpha-interferon -
38	592	61.6	189	1	IVMSA1	interferon alpha-I
39	585	60.9	190	2	A24401	interferon alpha-I
40	572	59.5	192	1	IVRTA1	interferon alpha-I
41	569	59.2	190	1	IVMSA2	interferon alpha-2
42	569	59.2	190	2	I49775	interferon alpha-B
43	568	59.1	190	2	I49772	interferon alpha-7
44	556	57.9	190	2	UH0468	interferon alpha-I
45	545	56.7	189	1	IVMSA6	interferon alpha-I

## ALIGNMENTS

```

RESULT 1
IVHUA9
interferon alpha-17 precursor - human
N:Alternate names: interferon alpha-9; interferon alpha-1'
C:Species: Homo sapiens (man)
C:Date: 01-Sep-1981 #sequence revision 01-Sep-1981 #text change 09-Jul-2004
C:Accession: A01835; A22255; C42753
R:Lawn, R.M.; Adelman, J.; Dull, T.J.; Gross, M.; Goeddel, D.; Ulrich, A.
Science 212, 1159-1162, 1981
A:Title: DNA sequence of two closely linked human leukocyte interferon genes.
A:Reference number: A94255; MUID:81201124; PMID:6165082
A:Accession: A01835
A:Molecule type: DNA
A:Residues: 1-189 <LAW>
A:Cross-references: UNIPROT:P01571; UNIPARC:UPI0000141F4B; GB:J00216; GB:V00532; NID:G321
R:Mizoguchi, J.; Pitba, P.M.; Raj, N.B.K.
DNA 4, 221-232, 1985
A:Title: Efficient expression in Escherichia coli of two species of human interferon-alfa
A:Reference number: A22255; MUID:85229953; PMID:3891272
A:Accession: A22255
A:Molecule type: mRNA
A:Residues: 1-56, 'H', 58-189 <MTZ>
A:Cross-references: UNIPARC:UPI0000052A9; GB:M1026; NID:G184612; PIDN:AAA52725.1; PID:
R:Zoon, K.C.; Miller, D.; Bekisz, J.; zur Nedden, D.; Enterline, J.C.; Nguyen, N.Y.; Hu,
J. Biol. Chem. 267, 15210-15216, 1992
A:Title: Purification and characterization of multiple components of human lymphoblastoid
A:Reference number: A42753; MUID:92340576; PMID:1634550
A:Accession: C42753
A:Molecule type: protein
A:Residues: 'X', 25-50, 'XX', 53-56 <ZOO>
A:Cross-references: UNIPARC:UPI000017365F
C:Genetics:
A:Gene: GDB:IFNA17
A:Cross-references: GDB:136358; OMIM:147583
A:Map position: 9p22-9p22
C:Superfamily: interferon alpha
C:Keywords: leukocyte
F:1-23/DNA: signal sequence #status predicted <SIG>
F:24-189/Product: interferon alpha-17 #status predicted <MAT>
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 99.0%; Score 951; DB 1; Length 189;
Best Local Similarity 99.5%; Pred. No. 6.5e-77;
Matches 189; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

QY 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
DB 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

## RESULT 2

151970  
interferon precursor - human  
C:Species: Homo sapiens (man)  
C:Date: 02-Jul-1996 #sequence\_revision 02-Jul-1996 #text\_change 16-Jul-1999  
C:Accession: I51970  
R:Savejiev, V.I.; Zlochevsky, M.L.; Sorokin, A.V.; Naroditskaya, V.A.; Bolotin, A.P.; De  
Antibiot. Med. Biotechnol. 31, 592-596, 1986  
A:Title: [Cloning and the determination of the nucleotide sequences in 2 genes of human  
A:Reference number: I51970; MUID:87024453; PMID:3767336  
A:Accession: I51970  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-189 <RES>  
A:Cross-references: UNIPARC:UPI000016AB15; GB:M8289; NID:G186407; PIDN:AAA59165.1; PID:  
C:Genetics:  
A:Gene: IFNA  
C:Superfamily: interferon alpha

Query Match 98.8%; Score 949; DB 2; Length 189;  
Best Local Similarity 98.9%; Pred. No. 9.8e-77;  
Matches 187; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPFSCIXDRHDFG 60  
DB 1 MALSFSLIMAVLVSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPFSCIXDRHDFG 60  
QY 61 LPQEEFDGNOFOKTOAISVLHEMIQOTFNLFTSDSSAAWESQSLLEKFSSTLYOOLNLE 120  
DB 61 LPQEEFDGNOFOKTOAISVLHEMIQOTFNLFTSDSSAAWESQSLLEKFSSTLYOOLNLE 120  
QY 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
DB 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

## RESULT 3

152347  
interferon alpha-M1 precursor - human  
C:Species: Homo sapiens (man)  
C:Date: 02-Jul-1996 #sequence\_revision 02-Jul-1996 #text\_change 09-Jul-2004  
C:Accession: I52347  
R:Linane, A.W.; Beilharz, M.W.; McMullen, G.L.; Macreadie, I.G.; Murphy, M.; Nisbet, I.  
Biochem. Int. 8, 725-732, 1994  
A:Title: Nucleotide sequence and expression in E. coli of a human interferon-alpha gene  
A:Reference number: I52347; MUID:84307815; PMID:6089830  
A:Accession: I52347  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-189 <RES>  
A:Cross-references: UNIPROT:P05014; UNIPARC:UPI000002BA77; GB:M27318; NID:G184617; PIDN:  
C:Genetics:  
A:Gene: IFNA  
C:Superfamily: interferon alpha

Query Match 95.6%; Score 919; DB 2; Length 189;  
Best Local Similarity 95.8%; Pred. No. 4.4e-74;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPFSCIXDRHDFG 60  
DB 1 MALSFSLIMAVLVSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPFSCIXDRHDFG 60  
QY 61 LPQEEFDGNOFOKTOAISVLHEMIQOTFNLFTSDSSAAWESQSLLEKFSSTLYOOLNLE 120  
DB 61 LPQEEFDGNOFOKTOAISVLHEMIQOTFNLFTSDSSAAWESQSLLEKFSSTLYOOLNLE 120  
QY 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
DB 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

## RESULT 4

1VHU4B  
interferon alpha-I-4b precursor - human  
N:Alternate names: HuIFN-alpha-I-4b; type I interferon  
C:Species: Homo sapiens (man)  
C:Date: 28-Dec-1987 #sequence\_revision 28-Dec-1987 #text\_change 09-Jul-2004  
C:Accession: E23753  
R:Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov:  
J. Mol. Biol. 185, 227-260, 1985  
A:Title: Structural relationship of human interferon alpha genes and pseudogenes.  
A:Reference number: A92916; MUID:86037205; PMID:4057246  
A:Accession: E23753  
A:Molecule type: DNA  
A:Residues: 1-189 <HENS>  
A:Cross-references: UNIPROT:P05014; UNIPARC:UPI0000047761; GB:X02955; NID:G32656; PIDN:C:  
C:Genetics:  
A:Gene: GDB:IFN1@  
A:Cross-references: GDB:119328; OMIM:147660  
A:Map position: 9p22-9p22  
C:Superfamily: interferon alpha  
C:Keywords: antiviral  
F:1-23/Domain: signal sequence #status predicted <SIG>  
F:24-189/Product: interferon alpha-I-4b #status predicted <MAT>  
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 95.4%; Score 917; DB 1; Length 189;  
Best Local Similarity 95.8%; Pred. No. 6.7e-74;  
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MALSFSLIMAVLVSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPFSCIXDRHDFG 60  
DB 1 MALSFSLIMAVLVSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPFSCIXDRHDFG 60  
QY 61 LPQEEFDGNOFOKTOAISVLHEMIQOTFNLFTSDSSAAWESQSLLEKFSSTLYOOLNLE 120  
DB 61 LPQEEFDGNOFOKTOAISVLHEMIQOTFNLFTSDSSAAWESQSLLEKFSSTLYOOLNLE 120  
QY 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
DB 121 ACVIOEVMGMEETPLMNEEDSIIAIVRKYFORITLYLTEKKYSPCAWEVVAEIMRSLSFSSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

## RESULT 5

1VHU4S  
interferon alpha-5 precursor - human  
C:Species: Homo sapiens (man)  
C:Date: 01-Sep-1981 #sequence\_revision 01-Sep-1981 #text\_change 09-Jul-2004  
C:Accession: A60937; A01830  
R:Bartholomew, C.; Windass, J.D.  
J. Interferon Res. 9, 407-417, 1989  
A:Title: Identification of a functional allele of a human interferon-alpha gene previous  
A:Reference number: A60937; MUID:89328015; PMID:2526839

A:Accession: A60937  
 A:Molecule type: DNA  
 A:Residues: 1-189 <BAR>  
 A:Cross-references: UNIPROT:P01566; UNIPARC:UPI0000047765  
 A/Note: this genomic sequence, SMTH11.1A, encodes a functional allele for alpha interferon and is a pseudogene  
 R:Goeddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seeburg Nature 290, 20-26, 1981  
 A/Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.  
 A/Reference number: A93249; MUID:81148795; PMID:6153083  
 A:Accession: A01830  
 A:Molecule type: mRNA  
 A:Residues: 1-189 <GEE>  
 A:Cross-references: UNIPARC:UPI0000047765; GB:V00551; GB:J00209; NID:g32748; PIDN:CAA238  
 A/Note: eight classes of interferon alpha clones were identified; this sequence is derived from a leukocyte  
 A:Gene: GDB:IFNA5  
 A:Cross-references: GDB:136362; OMIM:147565  
 A/Map position: 9p22-9p22  
 C/Superfamily: interferon alpha  
 C/Keywords: leukocyte  
 F:1-23/Domain: signal sequence #status predicted <SIG>  
 F:24-189/Product: interferon alpha-5 #status predicted <MAT>  
 F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 95.4%; Score 917; DB 1; Length 189;  
 Best Local Similarity 95.2%; Pred. No. 6.7e-74;  
 Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYSVYSKISGLGCDLPQTHSLGNRRALLILAQMGRIISFSCCKDRHDFG 60  
 DB 1 MALSFSLMAVLYSVYSKISGLGCDLPQTHSLGNRRALLILAQMGRIISFSCCKDRHDFR 60  
 QY 61 LPOEFDGNGFOKTOAISVLHEMIQOTFNLFTEDSSAAMEQSILEKFSSTELYQQLNMLE 120  
 DB 61 LPOEFDGNGFOKTOAISVLHEMIQOTFNLFTEDSSAAMEQSILEKFSSTELYQQLNDLE 120  
 QY 121 ACYIOEGMEEETPLMNEDSLILAVKRYFORITLYLTKKYSPCAMEVVRARIMRSLSFSTN 180  
 DB 121 ACYIOEGMEEETPLMNEDSLILAVKRYFORITLYLTKKYSPCAMEVVRARIMRSLSFSTN 180  
 QY 181 LQKILRRKD 189  
 DB 181 LQKILRRKD 189

## RESULT 6

156314  
 Interferon-alpha - human (fragment)  
 C/Species: Homo sapiens (man)  
 C/Date: 02-Jul-1996 #sequence\_revision 02-Jul-1996 #text\_change 09-Jul-2004  
 C/Accession: 156314  
 R:Lund, B.; von Gabain, A.; Edlund, T.; Ny, T.; Lundgren, E.  
 J:Interferon Res. 5, 229-238, 1985  
 A/Title: Differential expression of interferon genes in a substrain of Namalwa cells.  
 A/Reference number: 156314; MUID:85235859; PMID:4008999  
 A:Accession: 156314  
 A/Status: preliminary; translated from GB/EMBL/DBJ  
 A:Molecule type: mRNA  
 A:Residues: 1-176 <RSS>  
 A:Cross-references: UNIPROT:P01571; UNIPARC:UPI000002C74E; GB:M71246; NID:g184572; PIDN:C/Genetics:  
 A:Gene: IFNA  
 C/Superfamily: interferon alpha

Query Match 93.4%; Score 898; DB 2; Length 176;  
 Best Local Similarity 99.4%; Pred. No. 2.9e-72;  
 Matches 175; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 14 LSYSGISGCDLPQTHSLGNRRALLILAQMGRIISFSCCKDRHDFGLPOEFDGNGFOK 73  
 DB 1 LSYSGISGCDLPQTHSLGNRRALLILAQMGRIISFSCCKDRHDFGLPOEFDGNGFOK 60

QY 74 TQAIISVLHEMIQOTFNLFTEDSSAAMEQSILEKFSSTELYQQLNMLEACYIOEGMEEETP 133  
 DB 61 TQAIISVLHEMIQOTFNLFTEDSSAAMEQSILEKFSSTELYQQLNMLEACYIOEGMEEETP 120  
 QY 134 LMNEDSILAVKRYFORITLYLTKKYSPCAMEVVRARIMRSLSFSTNLOKILRRKD 189  
 DB 121 LMNEDSILAVKRYFORITLYLTKKYSPCAMEVVRARIMRSLSFSTNLOKILRRKD 176

## RESULT 7

153102  
 Interferon-alpha-J1 - human  
 C/Species: Homo sapiens (man)  
 C/Date: 02-Jul-1996 #sequence\_revision 02-Jul-1996 #text\_change 09-Jul-2004  
 C/Accession: 153102  
 R:Cohen, S.; Velan, B.; Grosfeld, H.; Shalita, Z.; Leitner, M.; Shaffer, A.  
 Dev. Biol. Stand. 60, 111-122, 1985  
 A/Title: Cloning, expression and biological activity of a new variant of human interferon  
 A/Reference number: 153102; MUID:86005847; PMID:2595168  
 A:Accession: 153102  
 A/Status: preliminary; translated from GB/EMBL/DBJ  
 A:Molecule type: mRNA  
 A:Residues: 1-189 <RBS>  
 A:Cross-references: UNIPROT:P01567; UNIPARC:UPI0000161BA7; GB:M34913; NID:g184614; PIDN:C/Superfamily: interferon alpha

Query Match 92.8%; Score 892; DB 2; Length 189;  
 Best Local Similarity 93.1%; Pred. No. 1.1e-71;  
 Matches 176; Conservative 6; Mismatches 7; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYSVYSKISGLGCDLPQTHSLGNRRALLILAQMGRIISFSCCKDRHDFG 60  
 DB 1 MALSFSLMAVLYSVYSKISGLGCDLPQTHSLGNRRALLILAQMGRIISFSCCKDRHDFR 60  
 QY 61 LPOEFDGNGFOKTOAISVLHEMIQOTFNLFTEDSSAAMEQSILEKFSSTELYQQLNMLE 120  
 DB 61 LPOEFDGNGFOKTOAISVLHEMIQOTFNLFTEDSSAAMEQSILEKFSSTELYQQLNDLE 120  
 QY 121 ACYIOEGMEEETPLMNEDSLILAVKRYFORITLYLTKKYSPCAMEVVRARIMRSLSFSTN 180  
 DB 121 ACYIOEGMEEETPLMNEDSLILAVKRYFORITLYLTKKYSPCAMEVVRARIMRSLSFSTN 180  
 QY 181 LQKILRRKD 189  
 DB 181 LQKILRRKD 189

## RESULT 8

156314  
 Interferon alpha-7 precursor - human  
 N/Alternate names: Interferon alpha-7, leif J  
 C/Species: Homo sapiens (man)  
 C/Date: 18-Aug-1982 #sequence\_revision 18-Aug-1982 #text\_change 09-Jul-2004  
 C/Accession: A01831; S43717  
 R:Ulrich, A.; Gray, A.; Goeddel, D.V.; Dull, T.J.  
 J.Mol. Biol. 156, 467-486, 1982  
 A/Title: Nucleotide sequence of a portion of human chromosome 9 containing a leukocyte interferon gene  
 A/Reference number: A01831; MUID:83010248; PMID:6181282  
 A:Accession: A01831  
 A:Molecule type: DNA  
 A:Residues: 1-189 <ULL>  
 A:Cross-references: UNIPROT:P01567; UNIPARC:UPI000004775E; GB:V00531; NID:g32631; PIDN:C/Genetics:  
 A/Note: this interferon is derived from a gene referred to as J by the authors  
 R:Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, O.I.; Haynes, J.R.; Hochstadt, J.; Kovacs, J. Mol. Biol. 185, 227-260, 1985  
 A/Title: Structural relationship of human interferon alpha genes and pseudogenes.  
 A/Reference number: A92916; MUID:86037205; PMID:4057246  
 A:Accession: S43717

A:Molecule type: DNA  
 A:Residues: 1-189 <HEN>  
 A:Cross-references: UNIPARC:UPI000004775E; EMBL:X02960; NID:g32665; PIDN:CAA26706.1; PIDN:C/Genetics:  
 A:Gene: GDB:IFNA7

A:Cross-references: GDB:136364; OMIM:147567  
A:Map position: 9p22-9p22  
C:Superfamily: interferon alpha  
C:Keywords: antiviral; cytokine; leukocyte  
F:1-23/Domain: signal sequence #status predicted <SIG>  
F:24-189/Product: interferon alpha-7 #status predicted <Mat>  
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 91.8%; Score 882; DB 1; Length 189;  
Best Local Similarity 92.1%; Pred. No. 8,3e-71;  
Matches 174; Conservative 6; Mismatches 9; Indels 0; Gaps 0;

QY 1 MALSFLMAVVLVSYSKISGLCDLPQTHSLGNRRALLLAQWGRISPSFCLXDRHDFG 60  
DB 1 MALSFLMAVVLVSYSKISGLCDLPQTHSLGNRRALLLAQWGRISPSFCLXDRHDFR 60  
QY 61 LPQEPFQNGPQKQALSVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVQOLNMLE 120  
DB 61 PPEEFDPHQFOKQALSVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVQOLNMLE 120  
QY 121 ACVIOEVMGEETPLANNEDSILAARKYFORITLYLEKTKYSCAMWVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVMGEETPLANNEDSILAARKYFORITLYLEKTKYSPCAMWVVAEIMRSLSFSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LKGLRRKD 189

RESULT 9  
184464  
interferon-alpha-F - human

C:Species: Homo sapiens (man)  
C:Date: 02-Aug-1996 #sequence\_revision 02-Aug-1996 #text\_change 09-Jul-2004  
C:Accession: 184464; 137583  
R:Gren, E.Y.; Berzin, V.M.; Tsimanis, A.Y.; Apsalons, U.R.; Vishnevskii, Y.I.; Yansone, I.  
A:Title: A new type of leukocytic interferon.  
Dokl. Biochem. 269, 91-95, 1983  
A:Title: A new type of leukocytic interferon.  
A:Reference number: 137583

A:Accession: 184464  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-189 <RES>  
A:Cross-references: UNIPROT:P01568; UNIPARC:UPI000002C35A; GB:M12350; NID:g184598; PIDN:  
A:Accession: 137583  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-189 <RES>  
A:Cross-references: UNIPARC:UPI000002C35A; EMBL:X00145; NID:g32724; PIDN:CAA24980.1; PID  
C:Genetics:  
A:Gene: IFNA  
C:Superfamily: interferon alpha

Query Match 90.7%; Score 872; DB 2; Length 189;  
Best Local Similarity 91.0%; Pred. No. 6,4e-70;  
Matches 172; Conservative 6; Mismatches 11; Indels 0; Gaps 0;

QY 1 MALSFLMAVVLVSYSKISGLCDLPQTHSLGNRRALLLAQWGRISPSFCLXDRHDFG 60  
DB 1 MALSFLMAVVLVSYSKISGLCDLPQTHSLGNRRALLLAQWGRISPSFCLXDRHDFG 60  
QY 61 LPQEPFQNGPQKQALSVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVQOLNMLE 120  
DB 61 PPEEFDPHQFOKQALSVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVQOLNMLE 120  
QY 121 ACVIOEVMGEETPLANNEDSILAARKYFORITLYLEKTKYSCAMWVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVMGEETPLANNEDSILAARKYFORITLYLEKTKYSPCAMWVVAEIMRSLSFSKI 180  
QY 181 LQKILRRKD 189  
DB 181 FOERLRKE 189

RESULT 10

1YHUF

interferon alpha-I-F precursor - human  
N:Alternate names: HuIFN-alpha-I-F; LeIF F; type I interferon  
C:Species: Homo sapiens (man)

C:Date: 01-Sep-1981 #sequence\_revision 01-Sep-1981 #text\_change 09-Jul-2004  
C:Accession: A01832  
R:Goodall, D.V.; Leung, D.W.; Dull, T.J.; Grose, M.; Lawn, R.M.; McCandlish, R.; Seeburg  
Nucleic Acids Res. 9, 20-26, 1981  
A:Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.  
A:Reference number: A93249; MUID:81148795; PMID:6163083  
A:Accession: A01832  
A:Molecule type: mRNA

A:Residues: 1-189 <GDB>

A:Cross-references: UNIPROT:P01568; UNIPARC:UPI0000047762; GB:V00540; GB:U00212; NID:g32  
A:Note: eight classes of interferon alpha clones were identified; this sequence is deriv  
C:Genetics:  
A:Gene: GDB:IFNA10

A:Cross-references: GDB:119328; OMIM:147660

A:Map position: 9p22-9p22

C:Superfamily: interferon alpha

C:Keywords: antiviral

F:1-23/Domain: signal sequence #status predicted <SIG>  
F:24-189/Product: interferon alpha-I-F #status predicted <Mat>  
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 90.5%; Score 870; DB 1; Length 189;  
Best Local Similarity 90.5%; Pred. No. 9,6e-70;  
Matches 171; Conservative 7; Mismatches 11; Indels 0; Gaps 0;

QY 1 MALSFLMAVVLVSYSKISGLCDLPQTHSLGNRRALLLAQWGRISPSFCLXDRHDFG 60  
DB 1 MALSFLMAVVLVSYSKISGLCDLPQTHSLGNRRALLLAQWGRISPSFCLXDRHDFG 60  
QY 61 LPQEPFQNGPQKQALSVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVQOLNMLE 120  
DB 61 PPEEFDPHQFOKQALSVLHEMIQOTFNLFSTEDSSAAWQSLLEKSTELVQOLNMLE 120  
QY 121 ACVIOEVMGEETPLANNEDSILAARKYFORITLYLEKTKYSCAMWVVAEIMRSLSFSTN 180  
DB 121 ACVIOEVMGEETPLANNEDSILAARKYFORITLYLEKTKYSPCAMWVVAEIMRSLSFSKI 180  
QY 181 LQKILRRKD 189  
DB 181 FOERLRKE 189

RESULT 11

interferon alpha 21 - human  
C:Species: Homo sapiens (man)  
C:Date: 02-Jul-1996 #sequence\_revision 02-Jul-1996 #text\_change 09-Jul-2004  
C:Accession: 156313

R:Gren, E.; Berzin, V.M.; Yansone, I.; Tsimanis, A.; Vishnevskiy, Y.; Apsalons, U.  
J. Interferon Res. 4, 609-617, 1984  
A:Title: Novel human leukocyte interferon subtype and structural comparison of alpha inte  
A:Reference number: 156313; MUID:85056523; PMID:6548765  
A:Accession: 156313  
A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-181 <RES>

A:Cross-references: UNIPROT:Q14608; UNIPARC:UPI00000677D8; GB:M28586; NID:g184636; PIDN:?

C:Genetics:  
A:Gene: GDB:IFNA21

A:Cross-references: GDB:136360; OMIM:147584  
A:Map position: 9p22-9p22  
C:Superfamily: interferon alpha

Query Match 87.1%; Score 837; DB 2; Length 181;  
Best Local Similarity 90.6%; Pred. No. 7,5e-67;  
Matches 164; Conservative 6; Mismatches 11; Indels 0; Gaps 0;

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Qy      9  MAAVLVSYKSIICSLGCDLPQTHSLGNRRALITLAQMGRIISPFSLCKDRHDFGLPOEEDG 68
Db      1  MAAVLVSYKSIICSLGCDLPQTHSLGNRRALITLAQMGRIISPFSLCKDRHDFGLPOEEDG 60

Qy      69  NQFOKTAISVLHEMIQOTFNLFTEDSSAAWESILEKFTSTELVQOLNLEACVIGEVG 128
Db      61  NQFOKTAISVLHEMIQOTFNLFTEDSSAAWESILEKFTSTELVQOLNLEACVIGEVG 120

Qy      129  MEETPLMNEDSLAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFTNLQKILRRK 188
Db      121  VEETPLMNVDSILAVKRYFORITLYLTKKYSPCAMEVVAEIMRSLSFTNLQKILRRK 180

Qy      189  D 189
Db      181  E 181

RESULT 12
IVHUI6
interferon alpha-1-16 precursor - human
N/Alternate names: HuIFN-alpha-1-16; Interferon alpha-1-WA; type I interferon
C/Species: Homo sapiens (man)
C/Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C/Accession: G23753; A22068; I73334
R/Henzo, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
U. Mol. Biol. 185, 227-260, 1985
A/Title: Structural relationship of human interferon alpha genes and pseudogenes.
A/Reference number: A92916; MUID:86037205; PMID:4057246
A/Accession: G23753
A/Molecule type: DNA
A/Residues: 1-189 <RES>
A/Cross-references: UNIPROT:P05015; UNIPARC:UPI0000047763; GB:X02957; NID:932653; PIDN:C
R/Torczynski, R.M.; Fuje, M.; Bollon, A.P.
Proc. Natl. Acad. Sci. U.S.A. 81, 6451-6455, 1984
A/Title: Human genomic library screened with 17-base oligonucleotide probes yields a nov
A/Reference number: A22068; MUID:86038533; PMID:6387705
A/Accession: A22068
A/Molecule type: DNA
A/Residues: 1-189 <DNA>
A/Cross-references: UNIPARC:UPI0000047763; GB:X02055; NID:9184620; PIDN:AAA52727.1; PID:
R/Gren, E.; Bezina, V.M.; Jansone, I.; Tsimanis, A.; Vlashevsky, Y.; Apalons, U.
J. Interferon Res. 4, 609-617, 1984
A/Title: Novel human leukocyte interferon subtype and structural comparison of alpha int
A/Reference number: 156313; MUID:85056523; PMID:6548765
A/Accession: I73334
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: mRNA
A/Residues: 1-189 <RES>
A/Cross-references: UNIPARC:UPI0000047763; GB:M28585; NID:9184643; PIDN:AAA36042.1; PID:
C/Genetics:
A/Gene: GDB:IFNA16
A/Cross-references: GDB:136357; OMIM:147580
A/Map position: 9p22-9p22
A/Introns: #status absent
C/Superfamily: Interferon alpha
C/Keywords: antiviral; cytokine; leukocyte
F/1-33/Domain: signal sequence #status predicted <SIG>
F/24-189/Product: interferon alpha-1-16 #status predicted <MAT>
F/24-122,52-162/Diulfide bonds: #status predicted

```

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Qy      121  ACVIOGVMEETPLMNEDSLAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFTSTN 180
Db      121  ACVIOGVMEETPLMNEDSLAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFTSTN 180

Qy      181  LQKILRRKD 189
Db      181  LQKILRRKD 189

RESULT 13
I37584
IFN-alpha-N-protein - human
C/Species: Homo sapiens (man)
C/Date: 04-Oct-1996 #sequence_revision 04-Oct-1996 #text_change 09-Jul-2004
C/Accession: I37584
R/Gren, E.Y.; Bezina, V.M.; Tsimanis, A.Y.; Apalton, U.R.; Vlashevskii, Y.I.; Jansone, I
A.; Lozha, V.P.; Kavan, V.M.; Ertimov, V.A.; Sverdlov, E.D.
Dokl. Biochem. 269, 91-95, 1983
A/Title: A new type of leukocytic interferon.
A/Reference number: I37583
A/Accession: I37584
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: mRNA
A/Residues: 1-189 <RES>
A/Cross-references: UNIPROT:Q14618; UNIPARC:UPI0000072A39; EMBL:X00140; NID:932726; PIDN
C/Superfamily: interferon alpha

Query Match      86.0%; Score 826; DB 2; Length 189;
Best Local Similarity 86.2%; Pred. No. 7.56-66;
Matches 163; Conservative 9; Mismatches 17; Indels 0; Gaps 0;

Qy      1  MALSPSLMAVLVSYKSIICSLGCDLPQTHSLGNRRALITLAQMGRIISPFSLCKDRHDFG 60
Db      1  MALSPSLMAVLVSYKSIICSLGCDLPQTHSLGNRRALITLAQMGRIISPFSLCKDRHDFG 60

Qy      61  LPOEFPDGNQFOKTAISVLHEMIQOTFNLFTEDSSAAWESILEKFTSTELVQOLNLE 120
Db      61  LPOEFPDGNQFOKTAISVLHEMIQOTFNLFTEDSSAAWESILEKFTSTELVQOLNLE 120

Qy      121  ACVIOGVMEETPLMNEDSLAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFTSTN 180
Db      121  ACVIOGVMEETPLMNEDSLAVRKYFORITLYLTKKYSPCAMEVVAEIMRSLSFTSTN 180

Qy      181  LQKILRRKD 189
Db      181  LQKILRRKD 189

RESULT 14
IVHUI7
interferon alpha-5 precursor - human
N/Alternate names: Interferon alpha-G
C/Species: Homo sapiens (man)
C/Date: 01-Sep-1981 #sequence_revision 29-Jan-1999 #text_change 09-Jul-2004
R/Henzo, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
U. Mol. Biol. 185, 227-260, 1985
A/Title: Structural relationship of human interferon alpha genes and pseudogenes.
A/Reference number: A92916; MUID:86037205; PMID:4057246
A/Accession: S43716
A/Molecule type: DNA
A/Residues: 1-189 <RES>
A/Cross-references: UNIPROT:P01569; UNIPARC:UPI0000047760; EMBL:X02956; NID:932659; PIDN
R/Gooddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seeburg
Nature 290, 20-26, 1981
A/Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.
A/Reference number: A93249; MUID:81148795; PMID:6163083
A/Accession: A01833
A/Molecule type: mRNA
A/Residues: 57-189 <GCE>
A/Cross-references: UNIPARC:UPI0000141F44; GB:V00541; GB:J00213; NID:932718; PIDN:CAA238
A/Note: eight classes of interferon alpha clones were identified, this sequence is deriv

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A:Gene: GDB:IFNA5  
 A:Cross-references: GDB:136362; OMIM:147565  
 A:Map position: 9p22-9p22  
 C:Superfamily: Interferon alpha  
 C:Keywords: antiviral; cytokine; leukocyte  
 F:1-23/Domain: signal sequence #status predicted <SIG>  
 F:24-189/Product: interferon alpha-5 #status predicted <MAT>

Query Match 85.4%; Score 821; DB 1; Length 189;  
 Best Local Similarity 82.5%; Pred. No. 2,1e-65;  
 Matches 156; Conservative 18; Mismatches 15; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYVLSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPSFCLKDRHDFG 60  
 DB 1 MALPFLMALVLYVLSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPSFCLKDRHDFG 60  
 QY 61 LPQEEFGNPOFOKTAISVLHEMIQQTENLFTSTEDSSAAVEQSILKEFSTELYQOLNNLE 120  
 DB 61 FPQEEFGNPOFOKTAISVLHEMIQQTENLFTSTEDSSAAVEQSILKEFSTELYQOLNNLE 120  
 QY 121 ACVIOEVMERTPLMNEDSLIAVKYFORITLYLTKKYSPCAMEVVAEIMRSLSPSTN 180  
 DB 121 ACVIOEVMERTPLMNEDSLIAVKYFORITLYLTKKYSPCAMEVVAEIMRSLSPSTN 180  
 QY 181 LQKILRRKD 189  
 DB 181 LQERLRKE 189

## RESULT 15

IVHU14

Interferon alpha-I-14 precursor [validated] - human

N:Alternate names: HuIFN-alpha-I-14; lambda-2-h; type I interferon

C:Species: Homo sapiens (man)

C:Date: 01-Sep-1981 #sequence revision 01-Sep-1981 #text change 09-Jul-2004

A:Accession: A92916; A94255; B93249; PC2203; A01834; C23753

R:Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov

J. Mol. Biol. 185, 227-260, 1985

A&gt;Title: Structural relationship of human interferon alpha genes and pseudogenes.

A:Reference number: A92916; PMID:86037205; PMID:4057246

A:Accession: A92916

A:Molecule type: DNA

A:Residues: 1-189 &lt;HEN&gt;

A:Cross-references: UNIPROT:P01570; UNIPARC:UPI00000541D5; GB:V00533; GB:X02959; NID:G32650; PIDN:C

R:Lawn, R.M.; Adelman, J.; Dull, T.J.; Gross, M.; Goeddel, D.; Ullrich, A.

Science 212, 1159-1162, 1981

A&gt;Title: DNA sequence of two closely linked human leukocyte interferon genes.

A:Reference number: A94255; PMID:81201124; PMID:6165082

A:Accession: A94255

A:Molecule type: DNA

A:Residues: 1-189 &lt;LAW&gt;

A:Cross-references: UNIPARC:UPI00000541D5; GB:V00533; GB:U00215; NID:G32635; PIDN:CAA237

R:Goeddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seeburg

Nature 290, 20-26, 1981

A&gt;Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.

A:Reference number: A93249; PMID:81148795; PMID:6163083

A:Accession: B93249

A:Molecule type: mRNA

A:Residues: 1-174,'F',176-189 &lt;GOB&gt;

A:Cross-references: UNIPARC:UPI0000047764; GB:V00542; GB:U00214; NID:G32720; PIDN:CAA238

A:Note: a variant sequence differs from that shown in having 175-Phe, 182-Lys, and 184-G

R:Shitono, H.; Koga, J.; Uemura, H.; Matsuo, A.

Bioosci. Biotechnol. Biochem. 58, 1714-1715, 1994

A&gt;Title: Identification of glycosylated subtypes of interferon-alpha produced by human 1

A:Reference number: PC2203; PMID:95036878; PMID:7765487

A:Accession: PC2203

A:Molecule type: protein

A:Residues: 'X',25-43 &lt;SHI&gt;

A:Cross-references: UNIPARC:UPI000017365E

C:Genetics: C:Experimental source: leukocyte

A:Gene: GDB:IFNA14

A:Cross-references: GDB:136356; OMIM:147579

A:Map position: 9p22-9p22  
 C:Superfamily: Interferon alpha  
 C:Keywords: antiviral; glycoprotein  
 F:1-23/Domain: signal sequence #status predicted <SIG>  
 F:24-189/Product: interferon alpha-I-14 #status experimental <MAT>  
 F:24-122,52-162/Disulfide bonds: #status predicted  
 F:25,95/Binding site: carbohydrate (Aen) (covalent) #status predicted

Query Match 84.6%; Score 813; DB 1; Length 189;  
 Best Local Similarity 83.1%; Pred. No. 1,1e-64;  
 Matches 157; Conservative 18; Mismatches 14; Indels 0; Gaps 0;

QY 1 MALSFSLMAVLYVLSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPSFCLKDRHDFG 60  
 DB 1 MALPFLMALVLYVLSYKISCSIGCDLPQTHSLGNRRALILLAQMGRIISPSFCLKDRHDFG 60  
 QY 61 LPQEEFGNPOFOKTAISVLHEMIQQTENLFTSTEDSSAAVEQSILKEFSTELYQOLNNLE 120  
 DB 61 FPQEEFGNPOFOKTAISVLHEMIQQTENLFTSTEDSSAAVEQSILKEFSTELYQOLNNLE 120  
 QY 121 ACVIOEVMERTPLMNEDSLIAVKYFORITLYLTKKYSPCAMEVVAEIMRSLSPSTN 180  
 DB 121 ACVIOEVMERTPLMNEDSLIAVKYFORITLYLTKKYSPCAMEVVAEIMRSLSPSTN 180  
 QY 181 LQKILRRKD 189  
 DB 181 LQKILRRKD 189

Search completed: December 15, 2005, 13:38:53  
 Job time : 38 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 15, 2005, 13:30:55 ; Search time 48 Seconds  
(without alignments)  
325.535 Million cell updates/sec

Title: US-10-691-653-2

Perfect score: 961  
Sequence: 1 MALSFSLIMAVLVLSYKSIK.....EIMRSLSFTNLKILRRKD 189

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :

- 1: /cgn2\_6/ptodata/1/iaa/5\_COMB.pep:\*
- 2: /cgn2\_6/ptodata/1/iaa/6\_COMB.pep:\*
- 3: /cgn2\_6/ptodata/1/iaa/H\_COMB.pep:\*
- 4: /cgn2\_6/ptodata/1/iaa/PCNUS\_COMB.pep:\*
- 5: /cgn2\_6/ptodata/1/iaa/RE\_COMB.pep:\*
- 6: /cgn2\_6/ptodata/1/iaa/backfile1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	961	100.0	189	2	US-09-206-935-18 Sequence 18, Appl
2	961	100.0	189	2	US-09-206-936-18 Sequence 18, Appl
3	951	99.0	189	2	US-07-145-002B-37 Sequence 37, Appl
4	951	99.0	189	2	US-06-256-204C-37 Sequence 37, Appl
5	941	97.9	189	2	US-07-145-002B-30 Sequence 30, Appl
6	941	97.9	189	2	US-06-256-204C-30 Sequence 30, Appl
7	925	96.3	189	1	US-08-026-758-16 Sequence 16, Appl
8	921	95.8	189	2	US-09-889-035-3 Sequence 3, Appl
9	917	95.4	189	2	US-09-206-935-10 Sequence 10, Appl
10	917	95.4	189	2	US-09-206-935-15 Sequence 15, Appl
11	917	95.4	189	2	US-09-206-936-15 Sequence 15, Appl
12	917	95.4	189	2	US-07-145-002B-6 Sequence 6, Appl
13	917	95.4	189	2	US-07-145-002B-6 Sequence 6, Appl
14	917	95.4	189	2	US-07-145-002B-19 Sequence 19, Appl
15	917	95.4	189	2	US-06-256-204C-6 Sequence 6, Appl
16	917	95.4	189	2	US-06-256-204C-19 Sequence 19, Appl
17	911	94.8	189	2	US-09-487-792-7 Sequence 7, Appl
18	911	94.8	189	2	US-09-908-594-7 Sequence 7, Appl
19	910	94.6	189	1	US-08-026-758-1 Sequence 1, Appl
20	909	94.6	189	1	US-08-489-066A-2 Sequence 2, Appl
21	909	94.6	189	2	US-08-489-072A-2 Sequence 2, Appl
22	909	94.6	189	2	US-08-489-071A-2 Sequence 2, Appl
23	907	94.4	189	1	US-08-026-758-20 Sequence 20, Appl
24	905	94.2	189	1	US-08-026-758-11 Sequence 11, Appl
25	905	94.2	189	1	US-08-026-758-12 Sequence 12, Appl
26	892	92.8	189	1	US-08-026-758-13 Sequence 13, Appl
27	883.5	91.9	188	6	Patent No. 5510472-8

28	882	91.8	189	1	US-08-489-066A-3 Sequence 3, Appl
29	882	91.8	189	2	US-08-489-072A-3 Sequence 3, Appl
30	882	91.8	189	2	US-09-206-935-13 Sequence 13, Appl
31	882	91.8	189	2	US-08-489-071A-3 Sequence 3, Appl
32	882	91.8	189	2	US-09-206-936-13 Sequence 13, Appl
33	882	91.8	189	2	US-07-145-002B-32 Sequence 32, Appl
34	882	91.8	189	2	US-06-256-204C-32 Sequence 32, Appl
35	875	91.1	189	1	US-08-026-758-15 Sequence 15, Appl
36	870	90.5	189	1	US-08-026-758-14 Sequence 14, Appl
37	870	90.5	189	2	US-09-206-935-19 Sequence 19, Appl
38	870	90.5	189	2	US-09-206-936-19 Sequence 19, Appl
39	870	90.5	189	2	US-07-145-002B-12 Sequence 12, Appl
40	870	90.5	189	2	US-07-145-002B-22 Sequence 22, Appl
41	870	90.5	189	2	US-06-256-204C-12 Sequence 12, Appl
42	870	90.5	189	2	US-06-256-204C-22 Sequence 22, Appl
43	870	90.5	189	2	US-09-919-497-73 Sequence 73, Appl
44	858	89.3	189	1	US-08-026-758-17 Sequence 17, Appl
45	844	87.8	166	2	US-09-339-913B-77 Sequence 77, Appl

ALIGNMENTS

```
RESULT 1
US-09-206-935-18
Sequence 18, Application US/09206935
Patent No. 629877
GENERAL INFORMATION:
APPLICANT: Chen, Jlan
APPLICANT: Godowski, Paul
APPLICANT: Wood, William I.
APPLICANT: Zhang, Dong-Xiao
TITLE OR INVENTION: NOVEL TYPE I INTERFERONS
FILE REFERENCE: 11659.50US05
CURRENT FILING DATE: 1998-12-07
EARLIER APPLICATION NUMBER: 60/084,045
EARLIER FILING DATE: 1998-05-04
NUMBER OF SEQ ID NOS: 24
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 18
LENGTH: 189
TYPE: PRT
ORGANISM: Homo sapiens
US-09-206-935-18

Query Match      100.0%; Score 961; DB 2; Length 189;
Best Local Similarity 100.0%; Pred. No. 6.7e-102;
Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 MALSFSLIMAVLVLSYKSIKSLGCDLPQTHSLGNRRALLILAQNGRISPFSCLDKDRHDFG 60
DB      1 MALSFSLIMAVLVLSYKSIKSLGCDLPQTHSLGNRRALLILAQNGRISPFSCLDKDRHDFG 60

QY      61 LPOSEPGNFOFKTOATSVLHEMTQOTFNLFEETEDSSAAWBSLLEKPFSTLYOQNLNLE 120
DB      61 LPOSEPGNFOFKTOATSVLHEMTQOTFNLFEETEDSSAAWBSLLEKPFSTLYOQNLNLE 120

QY      121 ACVQEVGMETPLMNEDSLILAVKRYFORITLVTEKKYSCFCAVEVYRAEIMRSLSTFN 180
DB      121 ACVQEVGMETPLMNEDSLILAVKRYFORITLVTEKKYSCFCAVEVYRAEIMRSLSTFN 180

QY      181 LQKILRRKD 189
DB      181 LQKILRRKD 189

RESULT 2
US-09-206-936-18
Sequence 18, Application US/09206936A
Patent No. 6300475
GENERAL INFORMATION:
APPLICANT: Chen, Jlan
```

APPLICANT: Wood, William I.  
; TITLE OF INVENTION: No. 6300475e1 Inteferon  
; FILE REFERENCE: P1224R1  
; CURRENT APPLICATION NUMBER: US/09/206,936A  
; CURRENT FILING DATE: 1998-12-07  
; EARLIER APPLICATION NUMBER: US 60/067,897  
; EARLIER FILING DATE: 1998-12-08  
; NUMBER OF SEQ ID NOS: 22  
; SEQ ID NO 18  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-206-936-18

Query Match 100.0%; Score 961; DB 2; Length 189;  
Best Local Similarity 100.0%; Pred. No. 6,7e-102;  
Matches 189; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
DB 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
QY 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120  
DB 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120  
QY 121 ACVIOEVGMEEPTPLMNESSILA VRKYFORITLYLTEKYS PCAWEVVAEIMRSISFSTN 180  
DB 121 ACVIOEVGMEEPTPLMNESSILA VRKYFORITLYLTEKYS PCAWEVVAEIMRSISFSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

RESULT 3  
US-07-145-002B-37  
; Sequence 37, Application US/07145002B  
; Patent No. 6482613  
; GENERAL INFORMATION:  
; APPLICANT: Goeddel, David V.  
; APPLICANT: Pestka, Sidney  
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN  
; TITLE OF INVENTION: LEUCOCYTE INTERFERONS  
; FILE REFERENCE: 1803-0088-999  
; CURRENT APPLICATION NUMBER: US/07/145,002B  
; CURRENT FILING DATE: 1989-01-19  
; NUMBER OF SEQ ID NOS: 70  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 37  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-07-145-002B-37

Query Match 99.0%; Score 951; DB 2; Length 189;  
Best Local Similarity 99.5%; Pred. No. 9,3e-101;  
Matches 189; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
DB 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
QY 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120  
DB 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120  
QY 121 ACVIOEVGMEEPTPLMNESSILA VRKYFORITLYLTEKYS PCAWEVVAEIMRSISFSTN 180  
DB 121 ACVIOEVGMEEPTPLMNESSILA VRKYFORITLYLTEKYS PCAWEVVAEIMRSISFSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

DB 181 LQKILRRKD 189

RESULT 4  
US-06-256-204C-37  
; Sequence 37, Application US/06256204C  
; Patent No. 6610830  
; GENERAL INFORMATION:  
; APPLICANT: Goeddel, David V.  
; APPLICANT: Pestka, Sidney  
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN  
; TITLE OF INVENTION: LEUCOCYTE INTERFERONS  
; FILE REFERENCE: 1803-0025-999  
; CURRENT APPLICATION NUMBER: US/06/256,204C  
; CURRENT FILING DATE: 1981-04-21  
; NUMBER OF SEQ ID NOS: 85  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 37  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-06-256-204C-37

Query Match 99.0%; Score 951; DB 2; Length 189;  
Best Local Similarity 99.5%; Pred. No. 9,3e-101;  
Matches 189; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
DB 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
QY 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120  
DB 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120  
QY 121 ACVIOEVGMEEPTPLMNESSILA VRKYFORITLYLTEKYS PCAWEVVAEIMRSISFSTN 180  
DB 121 ACVIOEVGMEEPTPLMNESSILA VRKYFORITLYLTEKYS PCAWEVVAEIMRSISFSTN 180  
QY 181 LQKILRRKD 189  
DB 181 LQKILRRKD 189

RESULT 5  
US-07-145-002B-30  
; Sequence 30, Application US/07145002B  
; Patent No. 6482613  
; GENERAL INFORMATION:  
; APPLICANT: Goeddel, David V.  
; APPLICANT: Pestka, Sidney  
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN  
; TITLE OF INVENTION: LEUCOCYTE INTERFERONS  
; FILE REFERENCE: 1803-0088-999  
; CURRENT APPLICATION NUMBER: US/07/145,002B  
; CURRENT FILING DATE: 1989-01-19  
; NUMBER OF SEQ ID NOS: 70  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 30  
; LENGTH: 189  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-07-145-002B-30

Query Match 97.9%; Score 941; DB 2; Length 189;  
Best Local Similarity 98.9%; Pred. No. 1,3e-99;  
Matches 187; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
DB 1 MALSFSLMAVVLVSYSKISGCDLPQTHSLGNRRALITLAQMGRI SPFSCCLKDRHDFG 60  
QY 61 LPOEFPGNQFOKTOAIVLHEMIQOTFNLSTEDSSAAWQSLEKSTELVYQOLNNLE 120

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Db      61 LPOEFDGNOFOKTOAISVHEMIQOTFNLFTEDSSAAMEOSLLEKSTELYQOLNMLE 120
      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSPCAMEVVRAIMSLSFSTN 180
      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSFSAWEVVRAIMSLSFSTN 180
Qy      181 LOKILRRKD 189
      181 LOKILRRKD 189
Db

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RESULT 6  
 US-06-256-204C-30  
 ; Sequence 30, Application US/06256204C  
 ; Patent No. 6610830  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Pestka, Sidney  
 ; APPLICANT: Pestka, Sidney  
 ; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN  
 ; FILE REFERENCE: 1803-0025-999  
 ; CURRENT APPLICATION NUMBER: US/06/256,204C  
 ; CURRENT FILING DATE: 1981-04-21  
 ; NUMBER OF SEQ ID NOS: 85  
 ; SOFTWARE: FASTSEQ for Windows Version 3.0  
 ; SEQ ID NO 30  
 ; LENGTH: 189  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 US-06-256-204C-30

Query Match 97.9%; Score 941; DB 2; Length 189;

Best Local Similarity 98.9%; Pred. No. 1.3e-99;

Matches 187; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 MALSFSLMAVLYSYKISLGGDLPOTHSLGNRRALILIAQMGRISSPSCDKDRHDFG 60
      1 MALSFSLMAVLYSYKISLGGDLPOTHSLGNRRALILIAQMGRISSPSCDKDRHDFG 60
Db      61 LPOEFDGNOFOKTOAISVHEMIQOTFNLFTEDSSAAMEOSLLEKSTELYQOLNMLE 120
      61 LPOEFDGNOFOKTOAISVHEMIQOTFNLFTEDSSAAMEOSLLEKSTELYQOLNMLE 120
Qy      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSFSAWEVVRAIMSLSFSTN 180
      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSFSAWEVVRAIMSLSFSTN 180
Db      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSFSAWEVVRAIMSLSFSTN 180
Qy      181 LOKILRRKD 189
      181 LOKILRRKD 189
Db      181 LOKILRRKD 189

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RESULT 7

US-08-026-758-16

; Sequence 16, Application US/08026758

; Patent No. 5780021

; GENERAL INFORMATION:

; APPLICANT: SOBEL, DOUGLAS O.

; TITLE OF INVENTION: A METHOD FOR TREATING AUTOIMMUNE

; DISEASES USING ALPHA-INTERFERON AND/OR BETA-INTERFERON

; NUMBER OF SEQUENCES: 26

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: P. C.

; STREET: 1755 S. Jefferson Davis Highway, Suite 400

; CITY: Arlington

; STATE: Virginia

; COUNTRY: U.S.A.

; ZIP: 22202

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

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; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/06/026,758
; FILING DATE: 19930305
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: Oblon, No. 5780021man F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 1126-096-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 413-3000
; TELEFAX: (703) 413-2220
; TELEX: 248855 OPAT UR
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 189 amino acids
; TYPE: amino acid
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 24..189
; OTHER INFORMATION: /note= "IFN-alpha-f"
US-08-026-758-16

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Query Match 96.3%; Score 925; DB 1; Length 189;

Best Local Similarity 97.4%; Pred. No. 8.9e-98;

Matches 184; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

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Qy      1 MALSFSLMAVLYSYKISLGGDLPOTHSLGNRRALILIAQMGRISSPSCDKDRHDFG 60
      1 MALSFSLMAVLYSYKISLGGDLPOTHSLGNRRALILIAQMGRISSPSCDKDRHDFG 60
Db      61 LPOEFDGNOFOKTOAISVHEMIQOTFNLFTEDSSAAMEOSLLEKSTELYQOLNMLE 120
      61 LPOEFDGNOFOKTOAISVHEMIQOTFNLFTEDSSAAMEOSLLEKSTELYQOLNMLE 120
Qy      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSPCAMEVVRAIMSLSFSTN 180
      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSPCAMEVVRAIMSLSFSTN 180
Db      121 ACVIOEVMETPLMNEDSLAVRKYFORITLYLTERKYSPCAMEVVRAIMSLSFSTN 180
Qy      181 LOKILRRKD 189
      181 LOKILRRKD 189
Db      181 LOKILRRKD 189

```

RESULT 8

US-09-889-035-3

; Sequence 3, Application US/09889035

; Patent No. 6703225

; GENERAL INFORMATION:

; APPLICANT: KOJIMA, SHIN-ICHI

; APPLICANT: ASAKURA, AKIRA

; APPLICANT: FUTATSUGI, TETSUAKI

; APPLICANT: OKA, YUKO

; APPLICANT: FUKUDA, YUKI

; APPLICANT: SAGARA, SHINSUKE

; TITLE OF INVENTION: NOVEL INTERFERON-ALPHA

; FILE REFERENCE: 065369

; CURRENT APPLICATION NUMBER: US/09/889,035

; CURRENT FILING DATE: 2001-07-11

; PRIOR APPLICATION NUMBER: JP 11-5138

; PRIOR FILING DATE: 1999-01-12

; NUMBER OF SEQ ID NOS: 7

; SEQ ID NO 3

; LENGTH: 189

; TYPE: PRT

; ORGANISM: Homo sapiens

; US-09-889-035-3

Query Match 95.8%; Score 921; DB 2; Length 189;

Best Local Similarity 95.8%; Pred. No. 2.6e-97;

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Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
QY 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F G 60
Db 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F R 60
QY 61 L P O E F D G N O F O K T O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
Db 61 I P O E F D G N O F O K A O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
QY 121 A C V I O E V G M E E T P L M N E D S I L A V R K Y F O R I T L Y L T E K K Y S P C A M E V V R A E I M R S I S F S T N 180
Db 121 A C V I O E V G E E T P L M N E D S I L A V R K Y F O R I T L Y L I E R K Y S P C A M E V V R A E I M R S I S F S T N 180
QY 181 L O K I L R R K D 189
Db 181 L O K R L R R K D 189

RESULT 9
US-09-206-935-10
; Sequence 10, Application US/09206935
; Patent No. 6299877
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Godowski, Paul
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Dong-Xiao
; TITLE OF INVENTION: NOVEL TYPE I INTERFERONS
; FILE REFERENCE: 11669.50US05
; CURRENT APPLICATION NUMBER: US/09/206,935
; EARLIER FILING DATE: 1998-12-07
; EARLIER APPLICATION NUMBER: 60/084,045
; NUMBER OF SEQ ID NOS: 24
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 10
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-206-935-10

Query Match 95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.8%; Pred. No. 7.3e-97;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
QY 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F G 60
Db 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F G 60
QY 61 L P O E F D G N O F O K T O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
Db 61 F P E E F D G H O F O K T O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
QY 121 A C V I O E V G M E E T P L M N E D S I L A V R K Y F O R I T L Y L T E K K Y S P C A M E V V R A E I M R S I S F S T N 180
Db 121 A C V I O E V G E E T P L M N E D S I L A V R K Y F O R I T L Y L I E K K Y S P C A M E V V R A E I M R S I S F S T N 180
QY 181 L O K I L R R K D 189
Db 181 L O K R L R R K D 189

RESULT 10
US-09-206-935-15
; Sequence 15, Application US/09206935
; Patent No. 6299877
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Godowski, Paul
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Dong-Xiao
; TITLE OF INVENTION: NOVEL TYPE I INTERFERONS
```

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; FILE REFERENCE: 11669.50US05
; CURRENT APPLICATION NUMBER: US/09/206,935
; EARLIER FILING DATE: 1998-12-07
; EARLIER APPLICATION NUMBER: 60/084,045
; NUMBER OF SEQ ID NOS: 24
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 15
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-206-935-15

Query Match 95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.2%; Pred. No. 7.3e-97;
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;
QY 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F G 60
Db 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F R 60
QY 61 L P O E F D G N O F O K T O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
Db 61 I P O E F D G N O F O K A O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
QY 121 A C V I O E V G M E E T P L M N E D S I L A V R K Y F O R I T L Y L T E K K Y S P C A M E V V R A E I M R S I S F S T N 180
Db 121 A C V I O E V G E E T P L M N E D S I L A V R K Y F O R I T L Y L I E R K Y S P C A M E V V R A E I M R S I S F S T N 180
QY 181 L O K I L R R K D 189
Db 181 L O K R L R R K D 189

RESULT 11
US-09-206-936-10
; Sequence 10, Application US/09206936A
; Patent No. 6300475
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: No. 6300475e1 Interferon
; FILE REFERENCE: P1224r1
; CURRENT APPLICATION NUMBER: US/09/206,936A
; EARLIER FILING DATE: 1998-12-07
; EARLIER APPLICATION NUMBER: US 60/067,897
; NUMBER OF SEQ ID NOS: 22
; SEQ ID NO 10
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-206-936-10

Query Match 95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.8%; Pred. No. 7.3e-97;
Matches 181; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
QY 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F G 60
Db 1 MALSFSLMAVLVLSYKSI C S I G C D L P O T H S L G N R R A L I L L A Q M G R I S P F S C L K D R H D F G 60
QY 61 L P O E F D G N O F O K T O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
Db 61 F P E E F D G H O F O K T O A I S V L H E M I Q O T F N L F S T E D S S A M E Q S I L E K F S T E L Y Q O L N D L E 120
QY 121 A C V I O E V G M E E T P L M N E D S I L A V R K Y F O R I T L Y L T E K K Y S P C A M E V V R A E I M R S I S F S T N 180
Db 121 A C V I O E V G E E T P L M N E D S I L A V R K Y F O R I T L Y L I E K K Y S P C A M E V V R A E I M R S I S F S T N 180
QY 181 L O K I L R R K D 189
Db 181 L O K R L R R K D 189
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RESULT 12
US-09-206-936-15
; Sequence 15, Application US/09206936A
; Patent No. 6300475
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: No. 6300475el Inteferon
; FILE REFERENCE: P1224r1
; CURRENT APPLICATION NUMBER: US/09/206, 936A
; CURRENT FILING DATE: 1998-12-07
; EARLIER APPLICATION NUMBER: US 60/067, 897
; EARLIER FILING DATE: 1998-12-08
; NUMBER OF SEQ ID NOS: 22
; SEQ ID NO 15
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-206-936-15

Query Match          95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.2%; Pred. No. 7.3e-97;
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSILMAVLVSYSGISGCDLPQTHSLGNRRALILIAQMGRIISPFSCLDKDRHDFG 60
DB 1 MALSFSILMAVLVSYSGISGCDLPQTHSLGNRRALILIAQMGRIISPFSCLDKDRHDFR 60

QY 61 LPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120
DB 61 IPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120

QY 121 ACVQEVGMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVRARIMSLSPSTN 180
DB 121 ACVQEVGMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVRARIMSLSPSTN 180

QY 181 LQKLRKRD 189
DB 181 LQKLRKRD 189

RESULT 13
US-07-145-002B-6
; Sequence 6, Application US/07145002B
; Patent No. 6482613
; GENERAL INFORMATION:
; APPLICANT: Goeddel, David V.
; APPLICANT: Pestka, Sidney
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
; FILE REFERENCE: 1803-0088-999
; CURRENT APPLICATION NUMBER: US/07/145, 002B
; CURRENT FILING DATE: 1989-01-19
; NUMBER OF SEQ ID NOS: 70
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 6
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-07-145-002B-6

Query Match          95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.2%; Pred. No. 7.3e-97;
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSILMAVLVSYSGISGCDLPQTHSLGNRRALILIAQMGRIISPFSCLDKDRHDFG 60
DB 1 MALSFSILMAVLVSYSGISGCDLPQTHSLGNRRALILIAQMGRIISPFSCLDKDRHDFR 60

QY 61 LPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120
DB 61 IPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120
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DB 61 IPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120
QY 121 ACVQEVGMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVRARIMSLSPSTN 180
DB 121 ACVQEVGMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVRARIMSLSPSTN 180

QY 181 LQKLRKRD 189
DB 181 LQKLRKRD 189

RESULT 14
US-07-145-002B-19
; Sequence 19, Application US/07145002B
; Patent No. 6482613
; GENERAL INFORMATION:
; APPLICANT: Goeddel, David V.
; APPLICANT: Pestka, Sidney
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
; FILE REFERENCE: 1803-0088-999
; CURRENT APPLICATION NUMBER: US/07/145, 002B
; CURRENT FILING DATE: 1989-01-19
; NUMBER OF SEQ ID NOS: 70
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 19
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-07-145-002B-19

Query Match          95.4%; Score 917; DB 2; Length 189;
Best Local Similarity 95.2%; Pred. No. 7.3e-97;
Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 MALSFSILMAVLVSYSGISGCDLPQTHSLGNRRALILIAQMGRIISPFSCLDKDRHDFG 60
DB 1 MALSFSILMAVLVSYSGISGCDLPQTHSLGNRRALILIAQMGRIISPFSCLDKDRHDFR 60

QY 61 LPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120
DB 61 IPOEFPDGNQFOKQAQAI SVLHEMIQOTFNLSTEDSSAAMEQSILEKFSSTELYQOANLLE 120

QY 121 ACVQEVGMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVRARIMSLSPSTN 180
DB 121 ACVQEVGMETPLMNDSTILAVKRYFORITLVYTEKYSPCAMEVVRARIMSLSPSTN 180

QY 181 LQKLRKRD 189
DB 181 LQKLRKRD 189

RESULT 15
US-06-256-204C-6
; Sequence 6, Application US/06256204C
; Patent No. 6610830
; GENERAL INFORMATION:
; APPLICANT: Goeddel, David V.
; APPLICANT: Pestka, Sidney
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
; FILE REFERENCE: 1803-0025-999
; CURRENT APPLICATION NUMBER: US/06/256, 204C
; CURRENT FILING DATE: 1981-04-21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 6
; LENGTH: 189
; TYPE: PRT
; ORGANISM: Homo sapiens
US-06-256-204C-6

Query Match          95.4%; Score 917; DB 2; Length 189;
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Best Local Similarity 95.2%; Pred. No. 7.3e-97;  
 Matches 180; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY	1	MALSFSLMAVIVLSYKSI	CSIGCDLPQTHSIGNRRA	LILLAQMGRI	SPFSC	CKDRHDFG	60
Db	1	MALSFSLMAVIVLSYKSI	CSIGCDLPQTHSIGNRRA	LILLAQMGRI	SPFSC	CKDRHDFR	60
QY	61	LPOEFFDGNQFOKTAIS	VLHMIQOTFNL	STEDSSAAMEOS	ILEKFS	TELYQQLN	120
Db	61	IPQEFFDGNQFOKTAIS	VLHMIQOTFNL	STEDSSAAMEOS	ILEKFS	TELYQQLN	120
QY	121	ACVIOEVGMETPLMNED	SILAVRKYFORITL	YLTEKYS	PCAMEV	VRAEIMRSL	180
Db	121	ACVIOEVGMETPLMNED	SILAVRKYFORITL	YLTEKYS	PCAMEV	VRAEIMRSL	180
QY	181	LQKILRRKD	189				
Db	181	LQKILRRKD	189				

Search completed: December 15, 2005, 13:39:47  
 Job time : 49 secs